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DOGS, BIRDS, AND OTHERS
NATURAL HISTORY LETTERS FROM
"THE SPECTATOR"

SOME BIRDS OF THE COUNTRYSIDE

BY H. J. MASSINGHAM

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As an observer of nature, and especially of bird-life in England, Mr. Massingham has exceptional qualifications both as a naturalist and a man of letters. Mr. Massingham writes with great literary charm as well as with wide knowledge and sympathy. His book is not wholly about birds: it deals with a number of other subjects which nature-lovers and others will find of notable interest, though in his studies of birds, their habits, psychology, æsthetic and scientific interest, etc., his work is exceptionally fascinating and will appeal to the numerous bird-lovers and nature-lovers of this country.

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DOGS BIRDS &
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TORY LETTERS FROM "THE
SPECTATOR." *Chosen, with an
Introduction and Notes by*
H. J. MASSINGHAM, *with a Preface*
by JOHN ST. LOE STRACHEY

T. FISHER UNWIN LTD
LONDON: ADELPHI TERRACE

First published in 1921

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"As man advances in civilization, and small tribes are united into large communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all the members of the same nation, though personally unknown to him. This point being once reached, there is only an artificial barrier to prevent his sympathies extending to the men of all nations and races. Sympathy beyond the confines of man, that is, humanity to the lower animals, seems to be one of the latest moral acquisitions. . . . This virtue, one of the noblest with which man is endowed, seems to arise incidentally from our sympathies becoming more tender and more widely diffused, until they are extended to all sentient beings."—CHARLES DARWIN.

"I think I could turn and live with animals, they are so placid and self-contained;

I stand and look at them long and long!

They do not sweat and whine about their condition;

They do not lie awake in the dark and weep for their sins;

They do not make one sick discussing their duty to God;

Not one is dissatisfied, not one is demented

With the mania of owning things;

Not one kneels to another, nor to his kind that lived thousands
of years ago;

Not one is respectable nor unhappy over the whole earth."

WALT WHITMAN.

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AN EXPLANATORY STATEMENT

IMAGINE a man who has put up a rough shanty or log hut, innocent of any art or science, but placed upon a piece of ground with a fine outlook. Next imagine the shanty to have fallen down from age and inherent defects. Finally, suppose an architect with knowledge and skill, recognizing the capacity of the plot, and proceeding to build on the site where once stood the shanty a house worthy of the situation.

In these circumstances, if one were told that the architect had gone to the ignorant amateur builder of the first shanty and had asked him to introduce the new house to the public, what would one say? One would say that obviously here was one of the things which don't happen—a miracle, in fact. Yet it has happened. Mr. Massingham has asked me to write an introduction to his book! A quarter of a century ago, at the request of Mr. Fisher Unwin, I made a collection of the dog stories and, later, of stories of other animals from the correspondence pages of the *Spectator*. I did this though I was ignorant of the sciences of biology and zoology illustrated by the said stories, and also, I may add, almost as unlearned in the metaphysical and psychological problems involved. Of course I ought to have said "No" to Mr. Unwin; but then I was quite young at the time, and if not foolish, at any rate as a young man no doubt ought to be, keen on trying my hand at anything and everything that could be got at with a pen. It was not only my theory but my practice at that

time to insist that a man's mind should be like a good hawk—willing to have a flight at whatever game was put up for him. I despised no one more heartily than the man who, when asked an opinion about something strange or new or difficult, put his hands deeper into his pockets and said either that the question was not in his period, or else that this or that subject was not his job.

I specially delighted in sporting attempts to do something which, properly speaking, I could not do and so ought not to have attempted. My argument for having a shot at anything and everything ran on this wise : “ You may have a bit of luck and force people to say : ‘ By Jove ! the chap’s done it ! ’ If this happens, how delightful ! You have won when by all the rules you deserved to lose. So here goes.”

This, however, was not the only attraction to me of Mr. Fisher Unwin’s offer. Being on the staff of the *Spectator*, I had got rather bored by the amount of jokes, diluted till they contained no more than ‘0001 of wit-alcohol, about the *Spectator’s* dog stories. It was all very well when Sir Owen Seaman made a charming poem in hexameters about the *Spectator* stories and ended a line with so good a dactyl and spondee as “ fabulous bow-wows.” As a rule, however, the joke was worn very thin. Besides, I liked the idea of not being afraid to own the soft impeachment or to champion the dog stories as very good copy. I was especially annoyed by the notion that the *Spectator* was constantly taken in by practical jokers, who sent ridiculous stories about impossible dogs and super-cats and canaries. I knew that the letters were perfectly authentic. That being so, I was glad to break a lance in defence of the *Spectator’s* discretion and to champion the veracity of its correspondents.

Perhaps what appealed to me most of all was that I was able to employ Dr. Johnson's plucky and illuminating words—"Sir, to leave things out of a book, merely because people tell you they will not be believed, is meanness." Therefore, I gaily embarked upon my collection and introduction without having any more right to approach the subject than the printer, or proof reader, or office boy. If asked to say what was the net result of the stories, I might have said of all concerned, including the correspondents, who were generally untheorizing observers, what was once said by a triumphant agnostic, a very small boy, in the police court when the magistrate asked if he knew where he would go to if he told a lie: "I dunno, nor you dunno, nor none of us dunno." That, I think, honestly was the attitude of the great majority of those responsible for the *Spectator* stories.

Now comes Mr. Massingham to take up the tale—an investigator blessed with the power to join a real sense of literature and an apt felicity of style to a deep knowledge of natural history. What is as important as knowledge, he has a wide sympathy and understanding of animal life. Finally, he is himself an observer as well as a critic and expounder of the observations of others. In his masterly introduction to the present book, and still more in the remarkable notes which he adds to almost each letter, he puts the dots on the *i*'s as well as they could have been put. We have all seen in a dim way that there was something curious and something worth observing and recording in these stories. He goes a great deal further than that. He weighs and computes their exact value, tells us where they lead to, and shows when and how they may be taken as sign-posts to further lines of investigation.

For myself I hope very much that Mr. Massingham's studies will in the end enlighten our minds as to the nature of those communications which undoubtedly take place between animals, and also between men and animals. The suggestion that if there is not language there is something in the nature of thought transference is very fascinating ; but one would like to see what evidence can be produced for it and then have that evidence properly weighed and examined. Certainly some of the stories in the present volume seem to point in that direction.

Having made apology for saying anything, the best thing I can do is to say no more, and to salute my friend, Mr. Massingham, and the public. I sincerely hope that in the years to come he may give us a fresh series of studies, notes, and explanations of collected *Spectator* stories, and also continue his admirable habit of "capping" the stories from his own experience or that of other investigators. Take, for example, the delightful disquisition under the heading of "The Mathematical Dog."

As I turn Mr. Massingham's pages and read the stories collected from the files of the *Spectator* during the last ten years, I am astonished at the amount of fresh interest conferred upon them by Mr. Massingham's annotations. As the builder of the shanty, I advise all who knew that ramshackle structure to go and see how worthy an edifice has been reared upon the old foundations—or perhaps I should say want of foundations, for, now I come to think of it, neither of my books had foundations. They just squatted on the ground. All the same, it was great fun to compile them and "get a rise" out of the naturalists.

J. ST. LOE STRACHEY.

INTRODUCTION

I

WHEN I first approached the editors of the *Spectator* for permission to work upon their letters about animals for a book, I realized that I was following a single tradition, but hardly that it was double. The Natural History letters published in the *Spectator* are the legitimate entail of Gilbert White and Edward Jesse; they are, like pastoral poetry, a racial inheritance, gathering significance, extending experience, and fostering a knowledge of and sympathy with natural life. They are, in fact, the expression of the normally sensitive English interest in animal life. In many ways, our attitude to animals is still very barbarous and very imperfectly consistent. But it must be remembered that these barbarisms are partly vestigiary relics of an unenlightened past and partly the consequence of the detestable predatory spirit directly encouraged by commercialism. The spiritual emotion of kinship with animals, again, which may be quite independent of, though no doubt it is partly derived from, the actual scientific proofs of that kinship, is an entirely novel development in human evolution. Such a projection of imaginative sympathy, ultimately embracing all sentience, is a valid symptom of civilization, a dynamo of progress, one definite assurance at least that, in spite of all lapses and reversions and stumblings and sinuosities, evolution does mean going on into wider and purer regions of consciousness. But this fine idea is still in its teens, and to expect too much of it is to telescope the present with the future. It will grow, and these humanizing

letters have, I am convinced, done incalculable service in keeping this particular home fire burning. And one reason is because, as I say, they issue sanely and naturally out of normal English feeling, out of an innate racial tendency which seems to be totally non-existent in some of the more backward European nations.

So much for the first tradition. The second is Mr. Strachey's former volumes (Unwin, 1895 and 1896), collecting *Spectator* letters about dogs (one volume) and cats and birds (another). My book has come of a good stock, for these two books, besides granting me constant pleasure and occasions for reflection, spurred me to treat the present volume with as much respect as though I were anthologizing the poems of a period, and to make it as good and solid a contribution to lay knowledge as I possibly could. My original intention was to pick up the thread where Mr. Strachey dropped it in 1896, but inasmuch as it was suggested by both the editors and the publisher that I should write notes to the letters, and in view of the fact that I have included in this the first volume (another is to follow) animals of many kinds, and of the richness and abundance of the material, I was compelled to draw in my horns and to confine my selection between the years 1900 and 1920. As it is, I have left out a large number of letters—many of them at the last moment and after writing notes on them—I was anxious to keep within the sanctuary. The liberties I have taken with the letters are as follows: I have arranged and coordinated them into divisions, altered the titles of a great many of them to whim or to fit the divisions, and twice struck out part of a letter irrelevant to the subject-matter. Otherwise, the letters are as they were published, and my only regret has been that I had to take the permission of their authors to include them in a book for granted. I hesitated at first as to the length and character of the notes, but when I got deeper into the book I found the letters so suggestive, tempting, and full

of openings that the annotator's diffidence was seduced and I let myself go. I am confident I was justified, and that readers have the right to demur at the quality of the notes or my qualifications for writing them, but not at the fact of their appearance. Discussion and criticism were necessary to the problems begotten of the text, portions of which contain important data for the students of natural history, animal psychology, and even natural philosophy. Lastly, I have to thank the editors of the *Spectator* for their generous and unfailing kindness to me. The facilities they gave me for preparing the book saved me a great deal of trouble and expense, and this special graciousness towards one who does not share their point of view in certain other fields of opinion is something to appreciate and remember for always.

II

Part of the pleasure of these letters is in their freedom from professionalism, from the grand air, from a dull literary foppishness, and any advertising of an escape from the ordinary. I was reading some old country letters published about eighty years ago, and one of them began, Cobbett-wise, "Let those rooks alone, boy!"—real literary music. Many of these letters are in this transparent manner, plain tales of things seen, and no nonsense. Having something definite and interesting to share with others less fortunate, they tell it out and achieve style without a thought of it, as the artist achieves personality by losing it in the absorption of his subject—"Lose that the lost thou may'st receive," which is sound literary criticism.

But I mean something more than this. The evil of professionalism includes a bureaucracy of knowledge, the illiberal exclusivism of so much modern thought, which resents any intrusion upon its private affairs, as the Board of Agriculture resented any outside lover of England pro-

testing against its efforts to have the hedges of our countryside destroyed. Much of our world is like the grand academy of Lagado, in each room of which some special mystery is practised from which the general public is excluded—an elaborate system of professionalized Trust knowledge, substituting the “dead blank it” of the universe, as William James said, for the “living thou.” It is like parthenogenesis, a stagnant degeneration of sexual function dangerous to the survival of the species that practises it, because there is no external influence to invade, penetrate, and re-vivify it. These letters interfere, they trespass upon the intellectual preserves, and help in the healthiest way to break up the various monopolies of mental tenure, the effect of which is to prevent each one of them from benefiting by the enlightenment of the other. Science is becoming more and more indeterminate, and beginning to recognize the limits and relativity of any single and particular plot of knowledge, to stretch out a hand to the profitable things which may be learned from other plots, and to broaden its perceptions so as to view all the plots as so many individual expressions of a landscape. A great biologist recently said of the nature-poets that they were “the truest because deepest biologists of us all,” and it is this latitude of mind which has made much modern science so powerful a humanizing influence. It is not from modern poetry but modern science that the world has received a creative vision of life which is true both to the facts and the spirit, and endorses the validity of religious emotion. But the old priestcraft of science is still in our midst, and assuredly would regard these letters with contempt. Let it, for these letters are in their own way truer to the Darwinian concept of the Web of Life, of the indivisibility of creation, than are the scientific medicine-men in their isolation. “All knowledge,” as Coleridge said, “begins and ends with wonder, but the first wonder is the child of ignorance, while the second wonder is the parent of adoration.”

Another evil of professionalism is that it exploits its material to its own ends. That utilitarian attitude has largely governed our relations with animal life. Animals, as the Catholic teaches and the commercialist acts, were created for our use; the splendour of the King Bird of Paradise was evolved through a myriad ages for the personal adornment of a revue actress; seals came into the world to be skinned alive for women's coats; and nature is the fore-ordained prey and booty of bandit man. The universe is our capital, or private estate, and we must get what we can out of it.

Many men of science justify themselves for turning zoology into necrology in the same way—they sacrifice life to Knowledge (always with a capital K). Knowledge to them is not relative, but absolute, a malignant idol, an inhuman and unnatural abstraction which entitles them to play *real politik* with the world, regardless of any respect for the spirit of life or any service to their fellows. Such knowledge is nothing but a moral trump card of the devil, and is on a lower level—because it is more sanctimonious—than the self-justification of the plumage trader, who calls his victims “waste products” until they are massacred and productively employed in women's hats. The necrologist and the plume-trader merely exploit the world to different heathen gods, the one called Knowledge, the other Gain. The real answer to this philosophy is that it does not pay; it recoils often with fearful effect upon the heads of innocent and guilty alike. The utilitarian kills the goose that lays the golden eggs. But if we see objects in and for themselves, we see the divine and immortal vision of all beauty behind them and gain a truer knowledge and a bodily and spiritual sanity into the bargain. There is nothing which brings with it so solid a well-being as a reverence for life. “If the mystery of life daily deepens, it is because we view it more closely and with clearer vision.” Everywhere, as Mr. Clutton Brock puts it, the library of the universe is defaced with our

meaningless scribble, and the remedy is to "learn to read." I believe that these letters play no small or insignificant part in teaching us how to read. For they help us to see that what great and sensitive men have felt to be right and true in our relations with animal life is endorsed by what Professor Gamble calls "the fundamental psychical uniformity of living things," from which all the later humanities logically evolve—by, in other words, the structure of the universe.

H. J. M.

PART I

DOGS

I

ANIMAL RATIOCINATION

DO ANIMALS REASON?

I

As I see you have of late published letters from several correspondents giving instances of cleverness on the part of animals, may I contribute the following? I had a pet monkey in India, and one day I placed a looking-glass on the ground in front of him to see what he would make of it. He saw his reflection in the glass, and, supposing it to be another monkey, he sprang round to the back of the glass, but of course found nothing there. He came back and looked at the reflection again, and again rushed round and was again disappointed. He then came back, fixed his gaze on the monkey in the glass, and kept him in sight while he stretched his paw round to the back of the glass and felt for him. Another day I was sitting in the verandah receiving the report of my company, and the monkey was chained to a pillar of the verandah. A soldier was standing before me with his rifle at the order. The monkey's curiosity was excited by the rifle, and he tried to reach it, but the length of his tether did not admit of his touching it. He looked about him, picked up a stick that was lying on the ground, reached out, and with it tapped the barrel and stock of the rifle as if to discover what it was made of. Mr. Ainslie Hight's story of Wagner's parrot, and his query, "Are birds capable of irony?" recalls to mind the story of the sutler's parrot in "Le Désastre," by the brothers Margueritte. While the

routed French army of MacMahon was streaming in wild confusion along the roads from the battlefield of Wörth, horse and foot, guns and baggage wagons all mixed up together, a parrot in a cage atop of a sutler's cart kept on screaming out : " À Berlin ! À Berlin ! "

F. H. TYRRELL, *Lieutenant-General*.

July 17, 1909.

NOTE.—Everybody interested in the mind of animals and the problem as to whether it is separated from the human mind in degree or in kind, should, I think, read Professor Lloyd Morgan's lucid and able " Introduction to Comparative Psychology," and I hope that he will read the letters in this book dealing with animal psychology, and tell us whether they in any way modify his conclusions. Those conclusions are very open-minded and free of dogma, but they reject the theory that the higher animals are capable of rational powers and of perceiving relations beyond sense-experience. But it is interesting that he gives the case of a monkey who wanted to climb the roof of a hut by means of a door, and finding that the door repeatedly swung to and so balked him, laid hold of a thick blanket and threw it over the door. If there were no previous associations of casual origin to act as suggestion, then, the Professor admits, this is a clear example of a reasoning process.

II

The enclosed extract from last Saturday's *Yorkshire Observer* is, I think, evidence of value in support of an affirmative answer to this question :

" A remarkable incident illustrative of a dog's sagacity was witnessed on the Otley Road at Far Headingley, near Leeds, on Thursday evening. A heavy dray was drawn up outside a house of refreshment at the roadside, and

presumably the driver had gone inside, for the sole occupant of the dray was a dog—one of the bob-tailed sheep variety. A motor-car came along the road, and just as it was abreast of the dray the driver changed the gear, making the usual crunching, grinding noise. This appeared to startle the horse attached to the dray, and it commenced to prance about, and eventually moved off down the hill. The dog, evidently disapproving of this, began to run to and fro on the front of the dray, barking furiously. The horse, however, took no notice, but continued down the hill at a sharp trot. A dozen people made towards it with the intention of checking its career before it got out of hand, but all were forestalled by the dog, who, apparently recognizing that prompt measures were necessary, jumped off the dray, and, seizing the trailing reins in its teeth, hung on to them with all its might. The dog was dragged along the road a few yards, but fortunately the horse had not attained any great speed, and, feeling the check, came to a standstill as the driver ran panting up. But for the dog's prompt action in all probability the horse would not have been stopped before it became more frightened, and if it had got fairly started down the hill into Headingley, the consequences might have been very serious indeed."

RICHARD WATSON.

July 31, 1909.

NOTE.—An extraordinary example of the power of drawing inferences by associating one idea with another. Here are two minor ones of association of ideas in my own dog. He always sleeps in my room, and, sharing my vicious propensity for late hours, is very comatose in the morning. When I get up, he goes on slumbering, and pays no attention to my exits and entrances from the room. But as soon as I *touch* my waistcoat he is up in a trice and bounding about me. He associates the waistcoat with a final departure from the bedroom. When,

again, I am writing letters, he will be sleeping in front of the fire. But the moment I lick an envelope he is standing by the door, looking up at me. He associates the licking of an envelope with going to the post.

III

Some years ago I was walking along Upper Leeson Street, Dublin, and saw a King Charles spaniel standing on a doorstep looking up at the bell-handle and whining. As soon as he saw me approaching he trotted down the steps, got in front of me, and sat up "begging." Of course I went and rang the bell, and as soon as the door was opened the little creature turned round and held up his paw to "shake hands." I did not at the time know his owner, but I made the lady's acquaintance some time afterwards. I asked her if the dog had been taught to "beg," to have the door opened and to "shake hands" by way of thanks. She said he had not; he had been taught to "beg," as pet dogs usually are taught, by feeding him with dainties after sitting up, and to "shake hands" after being fed. I could only conclude, therefore, that the dog associated the sitting-up attitude with a request to be given something he wished for, which in this case happened to be the ringing of the bell. He would naturally enough associate the ringing of the bell with the opening of the hall-door. But the "shake hands" gesture caps the climax. He evidently had been taught to associate this gesture with a feeling of gratitude for food which had given him pleasure; he felt pleasure at his wish to be let into the house being complied with, and so showed his gratitude in the way he had been taught to show it for food.

EDWARD STANLEY ROBERTSON.

June 20, 1909.

NOTE.—The great interest of Mr. Robertson's letter seems to me to lie in the dog's power of making a transition

from a specific action he had been taught to a similar one, but in a different plane, bringing different results and not founded upon experience. He was able to generalize, that is to say, from the experienced particular to the unforeseen general. He inferred that if you can get one thing you want by begging, you can likewise get another. Perhaps I may be allowed to refer once more to my own little rufous spaniel, a true canine logician. I gave him half an hour's lesson in begging for food in his earlier career, and that was his entire education. Begging is not only an expression of desire with him now, but it has become something which I am tempted to call a religious rite. He begs for any mortal thing he wants—for loofahs, beet-root, recreation with his human foster-parent, going for a walk, having the door opened, chasing away a bird-hunting cat, for kettle-holders, stones, gloves, etc., etc. But the point is that of his own volition he has extended the whole science of begging. I often look round and find him begging, for apparently no reason, under the mantelpiece, and I remember that his ball is there. He has suddenly remembered that I put it there the night before. And his begging practices really seem to have gone beyond the expression of want. If a friend calls whom he likes, he will, in the middle of our talk, get up and solemnly beg at him, and I can find no reason for it except just courtesy and friendliness. When I am out, I often see him on my return begging at the window looking on the street. It is partly, I conjecture, to see better and partly a silent plea for my return. But his begging has more mysterious motives than this. I often come into the room where he happens to be and find him begging with his back to me, quite silent and quite alone. I have cudgelled my brains in vain to penetrate the meaning of this, for there is nothing in the past or present to cause it. I am not concerned in it, and he is not begging for any concrete object. I think he is praying. Being largely self-instructed, he begs in any position, sitting

sideways, perhaps, for five minutes on his rump without inconvenience, and, in his observation of other objects, forgetting after a while the original purpose of his solicitation.

IV

In the very interesting article entitled "Do Animals Reason?" in your issue of June 5 you cite a paradox of Mr. Brewster's which reminds me of a scene which occurred when Charles (afterwards Lord) Bowen was examined *viva voce* at Oxford. He quoted an Aristotelian saying to the effect that "beasts have no knowledge of first principles"; he spoke in that deprecatory and quasi-interrogative voice of his which made a wag say of him that, as a Judge, he addressed the jury "as if he were asking them to dance with him." And I well remember the titter which the truism, thus dubitatively pronounced, excited among the listening undergraduates.

I once questioned my friend Romanes about one or more strange animal instincts, and his answers confirmed the surprise which I had felt on reading his "Animal Intelligence." He spoke of the newly hatched cuckoo, whose physical shape as well as his cruel instinct seem to be adapted by nature for the express purpose of throwing his foster-brothers out of the nest to die of cold and hunger. Romanes defines certain forms of instinct as "lapsed intelligence"—as manifested, that is, in automatic acts inherited from intelligent acts of remote ancestors. But how, one may ask, can such lapses have arisen without previous degeneration, and what can natural selection, sexual selection, and the other factors (if such there are) of the survival of the fittest, have been about when they allowed such degeneration? It may be worth adding two incidents reported by Romanes:

"Our servants have been accustomed during the late frost to throw the crumbs remaining from the breakfast-

table to the birds, and I have several times noticed that our cat used to wait there in ambush in the expectation of obtaining a hearty meal from one or two of the assembled birds. Now, so far, this circumstance in itself is not an 'example of abstract reasoning.' But to continue. For the last few days this practice of feeding the birds has been left off. The cat, however, with an almost incredible amount of forethought, was observed by myself, together with two other members of the household, to scatter crumbs on the grass with the obvious intention of enticing the birds. . . . Rengger described a monkey employing a stick wherewith to prise up the lid of a chest, which was too heavy for the animal to raise otherwise. This use of a lever as a mechanical instrument is an action to which no animal other than the monkey has ever been known to attain."

In my boyhood it was an axiom that beasts had nothing beyond instinct, and that the reason of man was the presage of his immortality. In opposition to this view, Max Müller remarked that parrots judge by the weight of a nut whether it has or has not a kernel, and that this is an act of comparison. My (once) distinguished tutor, the Rev. W. E. Jelf, went further, in an odd way, on the animal side; for he held that the Divine Omniscience, being intuitive and independent of logic, partook of the nature rather of instinct than of reason. Such an apotheosis of instinct sheds a mysterious halo over animal intelligence. Is not this halo conspicuous in Virgil's beautiful line which says of the bewildering instinct of bees—that instinct which still seems to us so marvellous after all the explanations of Darwin—that it has in it a god-sent—nay, a god-like—ingredient (*Esse apibus partem divinæ mentis et haustus Ætherios*)?

LIONEL A. TOLLEMACHE.

June 12, 1909.

NOTE.—We shall never acquire a true and stable view (viz., one not governed by fashions) of nature until the attitude of the best modern biology is properly appreciated. It may be summed up in the following points : (1) Purpose and mentality, like beauty, are pervasive throughout nature ; (2) the lowest animalcules cannot be exhaustively explained in physico-chemical terms ; (3) living creatures are individuals which change and progress ; (4) these changes and progressions are achieved by what we may legitimately call germinal inspirations or ideas—as Mother Carey says in the “ Water-Babies ” : “ I make things make themselves ” ; (5) a large part of the behaviour of living creatures is other-regarding rather than self-regarding, altruistic rather than selfish ; and as organisms progress in time, the altruistic tends to have a greater survival value than the egoistic. “ In fact, we find in *Animate Nature** far-reaching correspondence to the ideals of the True, the Beautiful, and the Good—correspondences which may suggest to some a possible line of development for Natural Theology.” Nature, that is to say, is in our hearts and our heads as well as our bones, and the gospels of Christ, of Shelley, of Blake, of St. Francis, of Wordsworth, are the prophetic climax of the evolutionary process.

I agree with Mr. Tollemache that to despise instinct in animals as a mechanism is a blindness. Instinct is the raw material of intuition, as animal intelligence is that of rationality controlled by an ideal, individuality of personality, the sociability of animals of a true commonwealth, the “ experiments in self-expression ” we call variations of art, the perceptual of the conceptual, and the law of mates, parental care, and the subordination of the individual to the welfare of the race—of the spiritual life.†

* “ Awareness is ubiquitous throughout Nature—if here in us in high measure, then in the oak and the acorn, in the molecule and the atom, in their several measures and degrees.”—PROFESSOR LLOYD MORGAN.

† “ Objective investigation is as favourable to the view of the general distribution of consciousness throughout animals as it well could be.”—PROFESSOR H. S. JENNINGS.

Lastly, Mr. Tollemache is, I think, right to criticize Romanes' theory of "certain forms of instinct" as derived from "lapsed intelligence." Instinct and intelligence are different forms of self-expression.

V

Your interesting article on the reasoning powers of animals in your issue of June 5 might be carried further in the direction of establishing the logical ability of a dog than the writer seems prepared to go. If the statement of the problem that was presented to the mind of the terrier referred to is correct, several syllogisms are suggested, and the reasoning is as good as much of that which we human beings employ every day of our lives. Permit me to throw some of these sentences into syllogistic form, which I think are clearly involved in the analysis :

- (1) No old and fat dog can catch rabbits in the open. (E)
 I am an old and fat dog. (A)
 ∴ I cannot catch rabbits in the open. (E)
- (2) A dog that is not seen is a dog that may catch rabbits. (A)
 I will be a dog that is not seen. (A)
 ∴ I will be a dog that may catch rabbits. (A)

Several others of like character might be given.

We cannot suppose that dogs have no powers of generalization, although it seems unlikely that they are capable of forming abstract ideas. At any rate, they possess sufficient intellectual power to frame a simple proposition, as in the judgment "Here are rabbits," which is the first step towards reasoning proper, although we cannot credit them with the degree of self-consciousness that would enable them to reflect, "These are my sentiments."

From my observation of dogs and cats I am led to con-

clude that there is scarcely a mental process which men experience that the lower animals have not in an incipient form, excepting self-consciousness in the strict sense.

Will you allow me to narrate a story about a fox-terrier that I have at present in my possession? Throughout one whole morning he evinced a restless desire to induce the housekeeper to accompany him into the drawing-room. On entering the room at length, he took her directly to the corner where he had deposited a bone, and he stood over it with an air of utter dejection, as if he were conscious that he had done wrong and deserved punishment. There was no necessity for his wishing the housekeeper to enter the room with him, as he could easily have slipped in and out unobserved, unless his fit of conscientiousness made him desirous of "confessing his sin." This incident is on a par with Dr. James Sully's story of a dog in his book on "The Human Mind," vol. ii., p. 161, note.

J. G. JAMES.

June 19, 1909.

NOTE.—It may be useful if I quote Professor Thomson's summing up of the problem of animal psychology, temperate but not niggardly. After running through unconscious movement (the beating of the heart), reflexes (obligatory movements of part of the body to an external stimulus), tropisms (obligatory movements of the whole body), instinct (which is constitutional and independent of experience), and intelligence (which is individual and acquired), he concludes :

"But there is a higher level still—that of rational activity; and, so far as we know, we have this field all to ourselves. By rational, as distinguished from intelligent, is meant that we cannot imagine its activities being carried out without general ideas, without conceptual inference as distinguished from perceptual inference, without thinking in the abstract. No one will suppose for a moment that man is always on this high level, in fact, he is on it far too little, much of our industry, for instance, being in detail non-rational and even non-intelligent. Nor dare we deny

that some of the higher animals may show the beginnings of conceptual inference or of rational activity. From an evolutionist point of view, this seems highly probable."

This view from a great thinker and one of, if not the most distinguished of modern men of science, puts a premium upon the interest of these letters. Are any of these examples of animal sagacity, of dogs adapting means to visualized ends, examples of *conceptual* inference? And how many men and women do the readers of these letters know whose lives are rationally governed by conceptual ideals?

The great difficulty of the problem is the proper definition of "reason." Reason implies a perception of relations, generalizing the results of it into an abstract concept; it puts the how, the why, and the what. Whether or no some animals possess this power of transmutation it is as yet impossible to say, but on the affirmative side we have to remember (1) the continuity of evolution, and (2) that it is not easy to distinguish between a highly specialized delicacy of sensory endowment, superior to the human equivalent and possessed by most wild animals, and a rudimentary capacity for rational behaviour.

VI

Having been limited in respect both of time and space when I wrote my letter on animal reason (*Spectator*, June 12), I hope that I may here insert, with slight abridgements, a few more illustrations witnessed or quoted by Romanes :

"Snails appear susceptible of some degree of personal attachment: an accurate observer informs me that he placed a pair of land snails, one of which was weakly, in a small and ill-provided garden. After a short time the strong and healthy individual disappeared, and was traced by its track of slime over a wall into an adjoining well-

stocked garden. The observer concluded that it had deserted its sickly mate ; but after an absence of twenty-four hours it returned, and apparently communicated the result of its successful exploration, for both then started along the same track, and disappeared over the wall. . . .

A small English terrier had been taught to ring for the servant. To test if the dog knew *why* it rang the bell, he was told to do so while the girl was in the room. The little fellow looked up in the most intelligent manner at the person giving the order, then at the servant, and refused to obey, although the order was repeated more than once. The servant left the room, and a few minutes afterwards the dog rang the bell immediately on being told to do so.

[Another dog-story. My grandmother-in-law was blind in one eye ; her dog, having been warned off her sofa, used to seat himself there on her blind side.—L. A. T.] . . .

Depriving bees of their antennæ has the effect of producing a marked bewilderment. A queen thus mutilated by Huber ran about in confusion, dropping her eggs at random, and appeared unable to take with precision the food that was offered her. She showed no resentment to a similarly mutilated stranger queen that was introduced ; the workers also heeded not the mutilated stranger, but when an un mutilated stranger was introduced they fell upon her. When the mutilated queen was allowed to escape, none of the workers followed. . . . A Cape baboon having taken off some clothes from the barracks, I formed a party to recover them. With twenty men I made a circuit to cut them off from the caverns, to which they always fled for shelter. They observed my movements, and detaching about fifty to guard the entrance, the others kept their post. We could see them collecting large stones and other missiles. One old grey-headed one, who had often paid us a visit at the barracks, was seen distributing his orders, as if a general. We rushed on to the attack, when, at a scream from him, they rolled down enormous stones on us, so that we were forced to give up the contest.

. . . A monkey, as I myself observed, succeeded by methodical investigation, and without any assistance, in discovering for himself the mechanical principle of the screw; and that monkeys well understand how to use stones as hammers is a matter of common observation since Dampier and Wafer first described this action as practised by these animals in the breaking open of oyster-shells. . . . While a paraffin lamp was being trimmed, some of the oil fell upon the back of a cat, and was afterwards ignited by a cinder falling upon it from the fire. The cat, with her back in a blaze, in an instant made for the door (which happened to be open) and sped up the street about one hundred yards, where she plunged into the village watering-trough, and extinguished the flame. The trough had eight or nine inches of water, and puss was in the habit of seeing the fire put out with water every night. The latter point is important, as it shows the data of observation on which the animal reasoned. . . . The feelings that prompt a cat to torture a captured mouse can only, I think, be assigned to the category to which by common consent they are ascribed—delight in torturing for torture's sake. Speaking of man, John S. Mill somewhere observes that there is in some human beings a special faculty or instinct of cruelty, which is not merely a passive indifference to the sight of physical suffering, but an active pleasure in witnessing or causing it. Now, so far as I have been able to discover, the only animals in which there is any evidence of a class of feelings in any way similar to these are cats [including those Brobdingnagian cats, tigers, and, I suppose, lions] and monkeys."

The nearer to man, the less the humanity! To speak more precisely, it appears that man and those brutes (in a double sense) which most resemble him are alone cursed with the quality which in Greek is called *ἐπιχαιρεκακία*, and in German *Schadenfreude*, but for which there is no equivalent in English—though such a compound word as "pain-

pleasure," which is kept in countenance, as it were, by the Baconian "play-pleasure," would have no real ambiguity. If this quality reaches its climax in man, one is tempted to adapt the Staëlian (or anonymous) epigram by saying : "Plus j'entends parler des hommes, plus j'aime les animaux." But, it may be asked, is pain-pleasure ever found in respectable men? I answer that, according to Freeman, this inhuman (or too human) defect forms part of the enjoyment of the chase. The only mode of hunting which he sanctioned was, as he phrased it, that of "Daddy Bunting"—hunting, not for sport, but for the necessities of life. And are we not warned by Wordsworth

" Never to blend our pleasure or our pride
With sorrow of the meanest thing that feels "?

In my former letter I said that Virgil represents the instinct of bees as "god-sent, nay, god-like." It is right to add that, probably through ignorance, he speaks of them, not as killing the "idle" drones, but merely as expelling them from the hive. Milton carries yet further his partiality towards

" The female bee, that feeds her husband drone
Deliciously ";

and he adds not a word about her sudden and deadly change of front. It is as if Pizarro were commended for his courtesy to the Peruvians and his enlightened toleration of their heathenism—until he ordered their massacre! Perhaps it may illustrate the difference between the sexes in their estimate of tragic expedients if I record how hotly dear old Miss Swanwick protested against Darwin's praise of the bees for the wholesale fratricide whereby they sustained their commonwealth. Was the great Newton of biology right or wrong in thus praising them? Is their unsisterly patriotism, their drastic Malthusianism, to be accounted a god-send or a devil-send? A brief answer may

be taken from a Cloughian hexameter : " God knows ; I certainly do not."

LIONEL A. TOLLEMACHE.

July 3, 1909.

NOTE.—May it not be (with apologies to the cat-lover) that the seemingly deliberate cruelty of the cat, its passion for catching birds though full-fed, and its torments of sexual desire at all seasons, are the consequence of an only partial adaptation to domestic life? The last two lapses are certainly not characteristic of the wild *Felidæ*, and it is very dubious whether the first is, if not from virtue, from hunger. A lion certainly cannot afford to play with an antelope ; he must kill it or lose it. And, as I have pointed out elsewhere, deliberate torture is practically, if not totally, unknown in wild Nature. It is the disease of a more advanced rationality. It has been suggested that playing with the mouse is connected with the play-instinct of young animals, which is a very important part of their education and may have survived in the domestic cat through its much leisure. In spite of its many engaging qualities, the domestic cat has, as it were, fallen between two stools, and is therefore, to some extent, a degenerate. It has failed to make its response to the demand of new conditions, as the dog certainly has not so failed. The Malthusianism of the bees seems to me neither a god-send nor a devil-send, if I may disagree with the wise and learned Mr. Tollemache. It is simply a necessity of life, a tax upon evolutionary progress. For the hive-bee is at the top of its race's evolutionary tree, and in none of the lower grades—*Bombus*, *Halictus*, Mining Bee, *Seratina*, Solitary Bee, etc.—do the worker bees survive the winter. The hive-bee is the only highly organized community of bees, and its drones would survive at the expense of the most useful part of the society, while, as we should expect, the other bees do not put their drones to death.

II

DOG-LOGIC

A SHEEP-DOG'S POWER OF REASONING

AN Irish farmer owned a few years ago a large English black-and-tan sheep-dog who at times displayed a wonderful amount of intelligent reasoning power. Adjoining the farm-steading was a grass-field devoted to the fowls, in one corner of which was the fowl-house—a large shed open at one end. The corn-stacks were also in this field. One day corn-threshing was being proceeded with, a load at a time being brought into the barn. The hens were, of course, very busy between loads about the stack, picking up the falling pickles, legitimately so, until the stack got so low that they could conveniently fly up and indulge themselves without stint. It not being convenient to place anyone to guard the stack, the farmer had a serious talk with his dog—a not unusual thing—pointing to the hens and telling him that they ought not to be on the stack, saying : “ Now, look here, Bruno, I want you to keep these hens off that stack [pointing to it] ; please attend.” Bruno evidently took it all in, and with scrupulous care discharged the allotted task. The following day this same duty was allotted to him. He discharged it while necessary between the loads with seemingly conscientious care, up till about two o'clock in the afternoon, at which time of day it was not an unusual thing for him to visit neighbouring doggies, sometimes bringing one of them home with him to supper. You see, he was not only socially but hospitably inclined. On this second day, about the hour named, he evidently remembered that he had a social

engagement, but what about duty and conscience? He evidently thought a way out. On the previous day and other days he had seen the hens voluntarily, and as was their wont, retiring about sundown to roost, giving no further trouble. Surely it would not matter much if they retired on this afternoon a little while earlier. Acting upon this conception, he deliberately, as if housing a flock of sheep, began to round up the hens, landing them inside their house; then, giving a triumphant, joyous bark and a playful gambol, was off, duty thus discharged—or evaded?—and conscience satisfied.

J. M.

NOTE.—Here is another story of canine artifice, though not so delightful a one as “J. M.’s”: “A terrier was allowed in the dining-room, where it sometimes received a bone from the table. The convention was that the door was at once opened for it when it sought exit with the bone in its mouth. It (*sic*) disdained bread. One evening it heard barking outside. It had, however, on that occasion no bone. It snapped up a piece of bread and made for the door. When it was opened, it dropped the bread and ran out to join its fellows” (McCabe: “Evolution of Mind,” quoted by Thomson and Lloyd Morgan). Yet they called the dog “it”!

A MATHEMATICAL DOG

In the *Spectator* for the last few weeks I have seen letters and an article on the sagacity of the horse, and I thought perhaps some of your readers would like to hear an extraordinary story of a puppy’s cuteness. He is a West Highland terrier of about ten months, and he used to be rather a trial to me in the mornings, waking me up very early, but by dint of scoldings and bribes he has now been persuaded to keep quiet (though he takes voyages of discovery round the room, poking his nose into every-

thing) till 7 a.m., when, exactly as the clock strikes, he leaps on to the bed and tries to aid me in the matter of ablutions! I was very anxious to see what he would do on Easter Sunday morning, when the clocks had been advanced one hour during the night on account of the Daylight Saving Act. I was therefore very much surprised when he jumped up as usual as the clock struck 7 a.m. (really 6)! He could not possibly have heard any familiar sounds of life, as no one was yet stirring. There seem to me to be only three possible explanations—he can count the strokes of the clock, or he understood our conversations the previous evening about putting on the clock, or it was merely a *very* strange coincidence. I am inclined to favour the first or second proposition.

O. K. I. DE B.

April 23, 1917.

NOTE.—If this dog is not an “unacknowledged legislator”—as yet—it is at any rate such law-abiding citizens as he that make the keeping of good Acts of Parliament possible. He certainly went one better than the dove (see p. 160), since he could not only count, but regulate his conduct by the results of his counting. I heard this story recently: There was a man who used to feed the birds in a large garden every day at a certain hour, and five minutes before time they used to assemble and await him. The first day of “summer-time” arrived—would the birds be an hour late? There they were waiting for him an hour earlier than usual! But it is a very sound rule in science not to accept a higher explanation if a lower is possible. The birds (the feathered tribes are the most observant animals in the world—including man) knew their friend was coming by the gardeners performing certain actions, and as they performed them an hour earlier, so the birds assembled in conformity. Possibly the rhythmical susceptibility of animals to changes of season, climate, temperature, etc., gives them a kind of sub-

conscious awareness of time and its periods. Even the duller senses of domestic animals may associate the striking of a clock with a responsiveness, superhumanly delicate, to the changing hours of the day. But this, of course, is the other way round, and the most probable explanation seems to be that the dog detected some preliminary sign or movement to the daily ceremony. If not, I give it up. For a discussion of animals' power of "localization in time," see Lloyd Morgan's chapter "Memory in Animals" in his "Comparative Psychology."

SAGACITY IN A DOG

As a reader of your paper I have noticed you welcome instances of special sagacity in animals, and the following instance may be of interest to your readers. I own a fine Airedale dog, eight years of age. I have never taught him tricks, preferring a healthy animal to a performing monkey; but as he lives with us in the house he has naturally learnt the meaning of words and signs on his own account, and adapted himself to the ways of the house. In the winter months we are in the habit of having porridge for breakfast, and during his first winter (aged eight or ten months) we were in the habit of putting him down the remains of a plate of porridge each morning, but finding he was apt to slobber the food on to the carpet, we put a newspaper under the plate morning by morning. He soon learnt the connection between the newspaper and the porridge, and used to bring the newspaper himself, and before long fetched it from the newspaper rack without any suggestion on our part. This is all very interesting, but quite ordinary. Now comes the point of the story. In the following spring we left off our porridge owing to the warm weather, and after fetching his paper for several days and finding no porridge resulted, he ceased fetching his newspaper, and not once during the whole summer did he bring the paper again until a day in the following October. When for the first time for six months porridge

was cooked for breakfast, he quietly got up from the fire and fetched his newspaper as usual. For six years he has continued to fetch his paper when there is porridge, but never to fetch the paper when there is not porridge in the room for breakfast. Never once has he missed ; never once has he fetched the paper when porridge was not on tap. Not only so, but when during a mild autumn porridge days are intermittent, he will fetch a paper one day when porridge is provided, and miss several days when porridge is not cooked, and immediately resume bringing his paper when porridge comes to table again.

Your readers may like to give an opinion as to the method of reasoning which must go on in the dog's mind to bring about the above result, for it cannot be mere instinct. Some people have suggested that it is the sense of smell, but I have come to the conclusion myself that the sense of sound is at the bottom of the matter. He hears the spoon against a dull, full platter, which as the contents gradually lessen becomes more resonant, and his ear becomes tuned to a nicety to the point when, as he probably would consider, the human has had sufficient, and what remains should be reserved for the dog. In any case, whatever the reason, I think you will admit it is a rather remarkable and unusual case of animal sagacity.

F. W. S.

NOTE.—

“ They also know
And reason not contemptibly.”

Does the dog occupy a buffer state between perceptual and conceptual inference, or is it only a case of association between porridge and newspaper, aided by *sight* (not sound) and a tenacious memory?

DOG INFERENCE

I told our vicar this morning the dog story in your last Saturday's issue. He at once related to me an experience of his own. He had a fox-terrier when he was an under-

graduate, very affectionate and intelligent. He took it with him to his first curacy, and there the dog became great friends with the landlady's cat. Presently the cat had kittens, and, needless to say, a man was next day occupied in the painful duty of drowning four of the innocents. The terrier looked on, much interested, apparently, but "saying nothing." In the course of the day he quietly retrieved every one of the drowned kittens and replaced them by the side of their mother. Another incident the vicar related of the same dog. One day master and dog were shopping in Chesterfield, when the dog accidentally knocked over a pot and broke it. Immediately he bolted out of the shop and out of sight (he wouldn't get his master into trouble if he could help it!). Half an hour later his master found him a mile out of the town, on the road home, waiting where the road forked, *providing an alternative route.*

PEVERIL TURNBULL.

March 7, 1914.

NOTE.—A behaviour so complex, a foresight so conscious, a motive so elaborate, a perception so inductively worked out, argue something more than putting two and two together. But is not Mr. Turnbull assuming that the dog acted as he did for the sake of keeping his master out of trouble? He may have fled to save his own skin, and his waiting where the road forked may have been a coincidence. On the other hand, Mr. Turnbull's inferences may have been as just as the dog's were remarkable. But *human* inference the story remains.

III

DOG-BARGAINING

DOG EXCHANGE

I CAN vouch for the truth of the following stories of a young fox-terrier. Billy, who is a Devonshire dog, has a dog friend who lives next door, and is regularly supplied with bones, while Billy is expected to lead the simple life on small puppy biscuits ("Ovals"). The two dogs apparently put their noses together, and arranged a regular system of exchange of diet, which has continued for over six months, to their mutual satisfaction. On day Billy was presented by his friend's mistress with two specially luscious chop-bones. He received them with evident gratitude, and, trotting off, returned with five puppy biscuits, which he laid at the feet of his benefactor. A truly generous rate of payment! At another time Billy developed a habit of saving from his supper two biscuits, which he presented to his master and mistress when they came down to breakfast next morning. When a visitor arrived, Billy took no notice of her for one or two mornings, but then, evidently feeling that he had been lacking in hospitality, he saved *three* biscuits, and the visitor had her share as long as she remained.

ESSA CORNWALLIS.

[Billy is evidently an unconscious follower of Bastiat and the *Spectator*, and realizes that the exchange basis is the only one on which a just and progressive social order can be founded. He has come to see that exchange is a union of forces.—ED. *Spectator*.]

March 8, 1913.

IV

DOG-GIVING : STUDIES IN DOG-FEELING, DOG-FELLOWSHIP, AND DOG-LOYALTY

PRESENTS BY ANIMALS

SOME months ago I read in the *Spectator* that animals rarely, if ever, make presents to one another. They do sometimes, however, and I have recently seen a very pretty instance. Last week I rode over to see a friend half a dozen miles away, and my two collies, Senta and Tom, mother and son, accompanied me. While waiting for luncheon, my host and hostess and I sat on the verandah, and the dogs lay on the lawn in front of the steps. To them entered a shambling, awkward setter puppy about eight months old, and, finding company present, set himself out to be agreeable to his guests by all sorts of uncouth gambols and invitations to play. But Tom and his mother, either disdaining so callow a playmate, or feeling the restraint of their unaccustomed surroundings, coldly repulsed his advances, and when he became too pressing simply got up and moved away a yard or two. This seemed to nonplus the puppy, and after regarding them for a while in an apparently pained manner, he turned and trotted off to a patch of forest (we call it "bush" here) about a hundred yards away, presently returning with the bones of a calf's leg, complete from hoof to hip-joint, and still bound together by its dried ligaments. It gave him some trouble to get this through the bars of the gate, but he soon solved the puzzle rather cleverly by getting through himself and then reaching back and taking the end. This precious offering—

an heirloom, I should say, from its appearance—he laid in front of Senta, his every joint exhibiting extreme friendliness, and finding she only averted her head, he took it to Tom. Tom's head followed suit, but I saw one furtive eye on the bone, and told him to take it, which he did, to the puppy's exuberant delight. Next moment they were all three gnawing at it, and, the ice thus broken, a wild game of play followed.

Before I end I must tell you one more little anecdote. Tom is only a little more than a year old, but has developed a fair amount of intelligence for his age. He is my constant companion, and the faithful guard of my coat when I take it off to work. One day last March I was anxious to finish some work—drilling-in a field of grass—and stayed out much later than usual. When sunset came, Tom made several trips across from my coat to me to see if I were not coming home, and at last, as darkness grew imminent, laboriously dragged the garment to me as a final hint.

IDRIS.

August 20, 1909.

THE DOG AS ALTRUIST

AT a farmhouse at which we have been staying, a terrier, Rough, shares always his master's first breakfast, the bread and cream accompanying a cup of tea. Three corners he breaks off and gives to Rough, who eats the first two. Of the third he licks the cream, then carries the crust to a hen, who each morning comes across the field where the fowls are kept, and at the gate awaits her friend's arrival. Should others of the hens appear, Rough "barks them off" while his favourite devours her portion.

C. E. LARTER.

September 26, 1908.

NOTE.—“ It is certain,” says Darwin, “ that associated animals have a feeling of love for each other,” and he gives some examples of the “ sympathy ” which animals “ certainly ” feel for each other’s distress or danger. The terns who carried off a wounded member of the flock, the curlew who warns the seal of the gunner’s presence by flicking him with his wings, are actions in the same notation as this dog’s friendship and sacrifice for the hen. The dog’s affection for the hen is indeed more highly developed, more individual, than the sympathy discharged by the terns and the curlew, for the dog has the unique educational advantage of familiarity with man. It was not an amateur lover of Nature who translated wishes into thoughts, but Charles Darwin who said : “ Besides love and sympathy, animals exhibit other qualities connected with the social instincts which in us would be called moral ;” and he even goes so far as to say that “ there seems no great improbability in animals developing the higher forms of abstraction and self-consciousness through the development and co-ordination of the simpler ones ”—a statement very much more audacious than any made by the writers of these letters. We are apt, in fact, to underrate the mental, moral, and emotional effects of millions of years’ pressure of the social instinct, and Prince Kropotkin’s “ Man did not make society, but society man,” was wisely uttered. In spite of modern knowledge, we are so ignorant of animal psychology that I feel these letters, particularly those concerned with the emotional relationships of animals, are of great value as data for experiment and principle.

A CANINE AMORET

Walking in the garden on Saturday, March 28, I encountered my butcher coming up from the gate with a joint in his basket and a very handsome black-and-white, smooth-haired sheep-dog at his heels. On my observing that he had a new dog, the man told me the following

story, which may be of interest to some of your readers. On Wednesday, March 18, on returning from the market town of Newton Abbot, the butcher found the dog—a stranger to him—lying in his stable, apparently on friendly terms with his old grey horse. Cracking his whip, he drove the animal out of the yard, and closed the gate. A little later, while sitting at tea with his wife in the room behind the shop, he heard a loud crash, and, thinking a side of beef had fallen down, he ran out, to find the sheep-dog again, who had leaped in from the road over the slab into the shop, and was lying there quietly, not attempting to touch the meat. Again he was driven away, and trotted off down the road, where he met and vanquished a noted local champion “boxer,” who was lying in wait for him. At 10 o’clock that night, on going out to lock up, the butcher found the dog again lying at his gate. Touched by the animal’s pluck and pertinacity—“The creetur weant take ‘naw’ fur an answer, miss, and he’m tu gude a man for ‘Boxer’”—the butcher let him in, and allowed him to sleep in the stable. The following day the dog was recognized by an acquaintance as belonging to a farmer named Elliot, who holds three farms: one seven miles up the coast, another three miles down the coast, and a third thirty miles inland, the other side of Exeter. The butcher therefore kept the dog for a week, and next market-day—Wednesday, March 25—he took him to Newton Abbot and returned him to Farmer Elliot, who took him away the same afternoon to his distant farm near Exeter. About 9 o’clock next morning the butcher received a telegram from Elliot—“Dog left here at 6.15”—and about a quarter of an hour later the dog ran into the shop, rather dusty, but not at all distressed, having run the thirty miles in three hours. His self-chosen master finds him very clever and useful in the business, and is negotiating the purchase of him from Farmer Elliot. So devotedly has the dog attached himself to the butcher that when, whilst driving a bargain with

a drover anent young pigs, the drover clapped the butcher on the shoulder while delivering his ultimatum as to price, the dog flew at him furiously to avenge a supposed assault on his master.

M. C. WELBY.

April 25, 1909.

NOTE.—“Whoever loved that loved not at first sight?”

“I am thy love,
Thy Amoret, for evermore thy love!

.

Speak, if thou be here,
My Perigot! Thy Amoret, thy dear,
Calls on thy loved name. . . . 'Tis thy friend,
Thy Amoret. . . .”

A DOG'S FIDELITY.

Last week a gamekeeper named Henry Osmond, in the employ of Lord Falmouth, was fatally shot in a poaching affray in the Tregothnan Woods. The evidence shows that Osmond must have died between 6.30 and 7 o'clock on Tuesday evening, January 26. His body was not discovered until 5 o'clock on the following Wednesday afternoon. All these hours, during which it rained pitilessly, a retriever puppy remained immovable by the side of her dead master, and in her fierce affection would not allow the search-party to touch the body. At last it was secured and fastened to a tree, but the faithful animal gnawed through the rope and returned to its guardianship of the dead, then following the body as it was borne by reverent hands to the keeper's house. Such touching affection deserves, I think, to be put on record in the columns of the *Spectator*.

A LOVER OF DOGS.

February 13, 1904.

THE FAITH OF DOGS

The correspondence you publish on the reasoning powers of animals prompts me to write to you of the fine saying many years ago of a man in Colyton, Devonshire. He had a breed of mastiffs, and was greatly attached to all his dogs. One of them died. He was much distressed. A few days later a friend met him, and, finding him still very despondent, said: "Why do you go on grieving? After all, it was only a dog." The old man replied: "Only a dog! Do you know that it has pleased the Almighty to endow the dog with two of His own most divine attributes—unchanging constancy and unpurchasable love."

JAS. RALPH.

June 20, 1909.

DOG-PAIN

In the comments contained in your issue of June 23 on the first chapter of Mr. Robinson's book, the writer apparently assents to the author's dictum that animals do not suffer pain, since they do not know that they suffer. Experience shows that they do dread pain, often connecting it with certain causes which they ingeniously avoid. It also shows that they not only feel pain as human beings do, but are less able to endure it, not seeing beyond it. I have, however, in mind an instance in which a dog of ours quietly submitted to a cutting operation, which it evidently felt would lead to immediate relief, which was the case. Mr. Robinson's argument applies equally to an infant who does not *know* when a pin has been allowed to run into him, but loudly proclaims the fact.

N.

June 30, 1906.

NOTE.—The problem of natural suffering has been so fogged with medieval anthropomorphism that it is an arduous task to put daylight into it. Every living creature

fitted up with nerve-ganglia is capable of feeling pain, which is a necessary consequence of the higher differentiation of organisms on the one hand and, with fear, an indispensable life-saving device on the other. Pain serves both as a warning and a stimulus. But it is seldom, if ever, protracted in wild nature, and where there is no escape from death treading on its heels, then pain departs. (See p. 94.) Disease, again, is practically unknown in natural life; it is a spectral auxiliary of man's conquests over nature, and though animals are frequently enough the hosts of parasites, in the majority of cases they suffer, paradoxical as it may seem, very little harm from them. The parasite is dangerous to health and life when it lodges with a *new* host, viz., one which has not purchased immunity from it by a constitutional adaptation. Thirdly, pain is rare in wild animal life, partly because the occasions for it are not numerous, partly because the natural process of recovery is extremely rapid, partly because it is a human not an animal affliction, and, lastly, because instantaneous or a mercifully swift death is the normal method. Nature's slayers have been adapted through millions of years to do their work without bungling, for bungling spells starvation. Does not the most cursory survey of animate nature impress—more, brand—upon our minds a cardinal fact—the fact of health, the health of vibrantly, intensely living creatures, who are never bored nor introspective, nor worried, nor embittered, nor in fear of hell nor what their neighbours think of them, but are so full of gladness and wholesomeness and sanity? It is true that domesticated animals do suffer, often severely; but, where their pains are not the result of cruelty or thoughtlessness on the part of their owners, they suffer because they are artificially protected. There is short shrift for the wild animal that is weakly or sickly, and by these eliminations the universal health of nature has been built up. The whole subject is indeed of great importance from the

human point of view. If pain and suffering, that is to say, are largely man-made, they are equally avoidable by man. It has been calculated that if man went to work upon them with a will, infectious diseases could be stamped out in fifty years. It is likewise with that amount—by far the largest amount in the total sum—of suffering caused by human folly, blindness, stupidity, or wickedness. The fault is in ourselves, not in our stars.

Lastly, I strongly disagree with “N.” that *wild* animals dread—viz., anticipate—pain. As Wallace justly wrote : “ Animals are spared from the pain of anticipating death ; violent deaths, if not too prolonged, are painless and easy ; neither do those which die of cold or hunger suffer much ; the popular idea of the struggle for existence entailing misery and pain on the animal world is the reverse of the truth.” Or Darwin : “ The vigorous, the healthy, and the happy survive and multiply.” It is not death, but the fear of death, which is woeful unto us. And where animals do suffer acutely from loss of mates or offspring, they are blessed with the healing oil of short memories.

V

DOG-PSYCHOLOGY AND A CASE OF APOSTASY

A DOG AND A CAT

IN turning over an old notebook I have come on the following anecdotes relating to a dog and a cat, which are, I think, worthy of being placed on record as interesting little bits of comparative psychology. The one illustrates how an acquirement may long remain dormant in the absence of an appropriate stimulus, or be cunningly concealed; and the other shows how the accidental discovery of a posture that relieves the pain of an injury may lead to its being adopted and steadily maintained until the work of healing is complete.

1. Mrs. L., of Bonchurch, brought home to England with her, after a visit to Spain, a little white poodle which she purchased from some professional dog-trainers in Barcelona. It proved an affectionate, intelligent little creature, but displayed no special talent, and for the first two years it was in Mrs. L.'s possession she did not know that it had been taught any tricks beyond that of begging for food. At the end of that time, however, two little Italian boys came to spend the afternoon with her. When they entered the drawing-room the poodle was resting unconcernedly on the hearth-rug, but the moment they began to talk to each other in Italian, as they did loudly and volubly, it jumped up, manifested excitement and alarm, and forthwith went through a little performance, throwing a somersault and attempting to stand on its head and walk on its forepaws, after which it ran and cowered in a

corner. It was soon calmed and reassured ; but whenever during the afternoon one of the boys spoke to it directly in Italian in a loud and commanding voice it made a feeble attempt to perform. It was obvious that it had been trained as an artiste, and that the sound of the Italian language, resembling that of the Spanish tongue employed by its master, set the old and somewhat rusty machinery in motion again.

2. When we were living at Whitehill, Colvend, in the autumn of 1881, a tortoiseshell kitten from a neighbouring cottage became a paying guest, spending most of its time with us, amply requiting by its pretty ways the tit-bits and petting bestowed on it. It was a good mouser and hunter, and on one of its expeditions after big game—rabbits—had the femur of its left hind leg fractured about the middle of the shaft, either by a stone thrown at it or by a trap or tumble. It came home limping painfully, dragging the leg, and for a couple of days was restless and evidently suffered much. At that time it discovered for itself that the easiest position was to lie on a soft-cushioned ottoman or window-seat, with the injured leg hanging over the edge. This position it then adopted and habitually maintained for three weeks. The weight of the limb produced the necessary extension, and union took place in the most extraordinary way without shortening.

JAMES CRICHTON-BROWNE.

October 14, 1905.

NOTE.—A valuable letter. It is an interesting fact that *hereditary* characters in wild animals may remain latent and potential for long periods, until the appropriate stimulus whips off the lid of the Jack-in-the-box, as it were. Seeds, for instance, will remain just pellets for years, until the right conditions summon them to germinate. The tragic story of human reversion and atavism is a grim comment on the persistence of ancestral inheritance—an

inverted compliment to the tremendous power of germinal variation—to that of life and change, that is to say. With *acquired* characters this is less frequent, since they are external impressions, not inborn potentialities. It seems, however, that acquired characters may be inherited if the impression ultimately sinks so deeply into the animal as to affect the germ-plasm—a modified return to the old Lamarckian position. This victimized little dog, that is to say, may have been so tortured that its descendents might inherit slight neurasthenic tendencies.

THE SAGA OF A TERRIER

This is the story of a terrier. Pat has lived all his ten and a half years, except the first six weeks, in the middle of a large public school. Boys have always surrounded him, and seem to have imparted to him something of perpetual youth, though it must be admitted that his beard and his moustache and the backs of his ears are very grey. He is the offspring of two highly bred parents, one a Yorkshire, the other a Skye terrier, and from the age of one and a half till now he has never failed to exhibit the pugnacious and virile spirit of his double lineage. Previously to that tender age his disposition was of the mildest; he threatened to grow up a Hopley Porter among dogs, and when assailed by a stranger would meekly turn his head away so as to avoid injury, and make it difficult to retaliate. But for some inscrutable reason this sweet reasonableness very suddenly passed away. Something happened which made reprisals a necessity, and from that moment Pat has been a *circum compita pugnax*, the terror of the neighbourhood, and the vanquisher of every canine foe not wholly disparate in size. His two chief enemies have passed away. The first, after losing all his teeth, found the recurrent conflicts with Pat too much for his old age, especially as on one occasion he met his younger assailant without a

muzzle, himself muzzled pursuant to law. The other one, though made much of at home, saw fit to decamp into the woods, and has been no more seen.

But before describing Pat's methods of compensating himself for these losses, some salient points of character must be indicated. His love for his master, which is very firm, dates from a deed of rapine which he committed at the age of ten months on the poultry shed. His master detected him with a very young chicken in his mouth, hanging indecisively from his jaws, and on Pat's speaking countenance there was a delicious expression of childlike geniality and whimsical guilelessness. But this availed not to save him from a heavy visitation delivered on the spot, a switch of exactly the right size and weight being found close by. Since then his way of taking a licking has been a model for all terriers. Scarcely a sound escapes the door of his lips except a few most articulate maledictions, and immediately it is done he is brimming over with noisy *ferocia*, barking and jumping about and ready for any iniquity there and then. He is a person dramatic to the tip of his tail. He must know that his importance is not world-wide, but he always behaves as if it were. Again, he likes to pose as an absolute master of the ceremonies always, and yet he could be influenced, mostly for the bad, and by a female too, a half-sister of his own, poor little Cricket, who was poisoned at three years of age. She, like many terriers, could stand anything except a small schoolboy running. The frequent spectacle of a lower boy late for lessons roused all the devilry in her, and Pat was borne along by the impetus of her feelings till the two together, rushing unperceived behind, would, with sudden very loud yappings and snaps at the fleshy portion of the leg, reduce the poor urchin abruptly to a sense of the reality of life, and give him a signal lesson of punctuality. Pat felt no animus whatever, but the part had to be played, and he played it to perfection. Again, when the squad of school recruits was being drilled on the terrace, Cricket

made up her mind, and told Pat that the sharp words of command were so many insults directly hurled at her head, so the twin black-haired, shaggy little furies laid on with their sharp white teeth to the lower end of the drill-sergeant's pantaloons. He, like the sentry at Pompeii, continued at his post till the mischief was done, but afterwards bethought him of a way of compensation. He went to the dog's master and pleaded that his unmentionables were in such a plight that he could no longer speak with his enemies, in the gate. "Well, but the damage was not very great, I suppose; the trousers are not new, are they?" "Beg pardon, sir, but in a few days I am to be married, and these are the only pants I have in the world, and there is no time to get them mended." This was a closer. The man of war was given sixteen shillings to purchase a ready-made pair at short notice, in flagrant disregard of the possibility of sweated labour.

But about the time that Cricket died, Pat's life was changed by the arrival of two beautiful golden collies, incredibly noisy animals and wholly without minds, Damon and Daphne. Damon is a perfect embodiment of the charming picture drawn by William Watson. The "ancestral strenuousness" of the sheep-dog forbear has degenerated into mere noise and the silliest ballyragging. If he hears a cart a quarter of a mile off, he rushes floundering through geranium-beds and banging among the delphiniums, romping ferociously with his mate. On these occasions he began by trying to make a fool of Pat. He would allure him as if to a bear fight, too silly to see that Pat was thirsting for his life-blood, and, conceive it, would rudely thrust his huge paw right into Pat's face or shove him shamefully back among the lobelias, and only bark with inane delight at what he had done. But Pat, with Billingsgate—*horresco referens*—pouring from his lips, used to fly after him, his short furry legs twinkling along the gravel, and hurl himself at the throat of this big shameless buffoon. The only result was that he would

grip hold of a lot of yellow hair, and Damon would go dashing along roaring with laughter, hardly knowing that he was there. Could an elderly gentleman with an iron-grey beard and a name for prowess in battle be expected to stand this? The end came in a strange fashion. Among Pat's oddities is a habit he has of licking the chops of any friend or neighbour if haply there may be some rich remains of a stolen mutton-bone. The spirit is that of the old woman with the jar of Falerian, but the gain seems more tangible. Anyhow, he often does it to Damon, and on one occasion the latter, becoming restive, began to move away, when Pat bit him sharply on the tender and hairless jaw. Damon, formerly imperious, confessed this home-thrust by a whimper, and from that day to this Pat has known how to subdue him. True, at the beginning of a walk he can still bark and scamper across the cricket-field, but that is only because Pat is too short in the leg to keep up. Damon is a cowed and submissive beast now. Oft-times he lies on the lawn *nescio quid meditans nugarum et totus in illis* when Pat, thinking times are slow, conjures up a whole "Iliad" of fiction, and assumes the unhappy collie is a dangerous character requiring repression. So he utters the most sinister warnings to him from twenty yards away, and, looking in the opposite direction, spurning the grass with his hind legs, with his tail cocked till it lies stiffly along his backbone. *Ingentes animas angusto in pectore versat*. Or he will patrol round and round his victim, tyrannizing disgracefully and glancing askance to see if human beings are observing him. Then in two minutes he will be perfectly friendly for the rest of the afternoon. It is all sham, but it adds a great zest to life, and that is the grand object of this fine actor and prince of bullies, as, indeed, it is to many another controversialist better known in the wider world.

E. LYTTELTON.

September 1, 1900.

A CANINE ODYSSEUS

Many adventures have been thoroughly enjoyed by Yel, a magnificent Airedale terrier, the property of Commander Davenport, of Gillingham. Yel joined up when he was barely six weeks old, in 1916, and when six months old embarked for German East Africa. At the Cape the orders were cancelled, and he went to the Cameroons. One day the dog had an exciting encounter with two snakes. He leaped out suddenly from the bush and stood on his hind legs with a very unusual expression in his eye, and fell motionless at his master's feet. While someone fetched some water to revive him, other members of the party investigated the place whence he had appeared, and came across two enormous snakes of a very deadly kind. The snakes were killed. On another occasion Yel unwittingly disturbed a trail of black Driver ants, which fastened themselves all over him. A native servant picked him up, put him on a horse, and galloped off with him to some water two miles away, water being the only remedy in such a case. Yel never repeated that mistake. Once, when his ship was lying at anchor, the dog fell overboard and was rescued by two seamen, who were rewarded by two bottles of Bass, a very great treat in those parts. Yel's popularity increased immediately, and his footsteps were watched most zealously by many admirers, but he declined to repeat his performance.

Being of a very genial nature, he made many friends with other animals, among them being some monkeys, chimpanzees, leopard cubs, and some Crown birds. On returning to England he was quarantined for four months. Then he went off with his ship to an Irish base, and from there to one in the North of Scotland. While walking with his master one day he found a horse suffering great pain. He fetched his master to the spot and kept a number of crows from alighting on the poor beast, who was soon put out of his misery. When his master was employed

on escort duties to merchant ships between a northern port and the Norwegian coast, Yel always foretold approaching danger. His signals of subdued whines and unusual uneasiness were always followed by the loss of a ship or the "Submarine in sight" signal being hoisted. Whatever the weather, the dog could never be induced to go below while his master was on deck.

Now that he is home once more Yel—he is registered at the Kennel Club as Yelverstone, the place of his birth—is collecting £100 for the R.S.P.C.A. Soldiers' Dog Fund, and already has over £50 to his credit.

E. G. FAIRHOLME.

May 3, 1919.

NOTE.—

"And thou, proved, much-enduring,
Wave toss'd Wanderer!"

But we have a British Odysseus, none other than the "benevolent, itinerating Tom Coryat, the Odcombian legge-stretcher"—

"One Homer only sung Ulysses' praise,
But Coryat's all the Poets of our daies."

If Yel still lives (as all good men must pray), let his paltry name be transfigured to Coryat.

A CASE OF APOSTACY

CANINE ATHEISM, OR A LOST DOG

You have recently discussed in your columns the intelligence and literary tastes of dogs. It may interest your readers to know of one case in which a dog showed very pronounced convictions on a question of ecclesiastical policy. Anyone familiar with shepherds of the Vale of Yarrow, in the Scottish Borderland, will bear witness to the truth of the following tale. At the Disruption in 1843

the bulk of shepherds joined the Free Kirk. But one collie held by the Establishment principle, and refused to "come out." Every Sabbath he went alone to the Established church where he had been wont to accompany his owner. His master refused to coerce him. "Na, na," he said: "he's a wise dowg; I'll no meddle with his convictions." The collie's adherence to the Establishment had, however, a disastrous end. He was accustomed to lie during the sermon on the pulpit stairs, no doubt the better to hear the discourse. Below him were placed the long stove-pipe hats of the elders. On one unfortunate day he fell asleep, rolled off his step, and managed to get his head firmly fixed inside one of the hats. Bitterly mortified, the dog fled from the kirk, and ever afterwards, as his master said, "had nae trokins wi' releegion."

October 15, 1904.

NOTE.—An awful warning against the dull sermons of orthodoxy.

PART II

BIRDS

THE HISTORY OF THE
CITY OF NEW YORK

From the first settlement of the Dutch in 1624 to the present time. The city of New York has been the seat of government for the State of New York, and has been the center of commerce and industry for the entire North American continent. The city has been the home of many of the great men of the world, and has been the scene of many of the great events of history. The city has been the center of the American Revolution, and has been the home of the American people for more than two centuries.

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I

BIRD ALTRUISM AND FAMILY LIFE

A BIRD'S DEVOTION

THERE have been a pair of Chinese geese on the lake here for several years. Last Friday they did not come to be fed with the ducks as usual. Finding them by themselves later in the day, I took them some food. On Saturday they did not appear at all. On Sunday I found that the goose was dead, and was lying by the side of the water in a distant part of the lake. The gander was sitting by her side guarding her corpse. He tried to drive me away, and would not let me approach even when I took him some food. Perhaps this devotion of a bird to his dead spouse may interest some of your bird-loving readers.

R. HOLDEN.

STORGE

A neighbour of mine has a two-wheeled cart, with the usual box in front over the shafts, covered with a lid. In this box a pair of tom-tits have built their nest, and six eggs are the result. The owner goes his regular journeys, and the dam sits tight and makes the best of disturbed incubation. She is quite tame, and allows my neighbour's children to stroke her as she sits. We are all wondering whether the eggs will hatch out.

T. R. F.

June 11, 1910.

BLACKBIRDS *v.* CATS

I

The interesting letter in your issue of August 2 on black-birds and cats recalls to my mind a somewhat similar incident which occurred to a friend of mine at Bexhill. One morning in the spring she heard loud and unusual sounds proceeding from the garden. On investigating the cause she discovered that her cat had seized and killed a hen blackbird and was gloating over her victim. But her triumph was short-lived, for in a few minutes the bird's mate flew down, and alighting on the head of the destroyer of its domestic happiness, pecked her furiously, at the same time uttering piercing cries of rage. The effect of this onslaught on the cat was remarkable. She seemed paralysed with fear, and crouched trembling during the whole time her punishment lasted—about ten minutes. When at last the bird, exhausted, flew away, the cat darted into the house and hid under a bed in one of the upper rooms. For several days afterwards she could not be persuaded to enter the garden, and when at length she ventured she looked furtively round, and both on that occasion and whenever she went into the garden in future was always on the watch for her injured and indignant enemy. If she saw or heard him she invariably rushed terror-stricken into the house. Surely this must be a rare instance of fearlessness on the part of the bird towards its inveterate foe, and fear on the part of the cat towards a creature which it holds as a rule in contempt and looks upon as its rightful prey.

FRANCES SCRIPPS.

August 30, 1919.

BLACKBIRDS *v.* CATS

II

Our garden was yesterday (July 26) the scene during over two hours of an heroic attempt by a couple of blackbirds to save their young one from cats. For reckless intrepidity and sustained energy I venture to think that their efforts may be worth recording. Our cat—ten months old—and a friend from next door—five months old—went into the garden to play, when they were immediately the object of a tremendous demonstration by the two blackbirds. The parents kept up a continuous volume of vindictive objurgations—the notes were of aggressive rage, not of alarm—and repeatedly charged—no other word describes their assaults—within a few inches of the cats, which remained crouching and ready to spring. (It turned out that the young blackbird was among some plants, though the cats, as well as ourselves, were innocent of its hiding-place.) It almost seemed as if the old birds were determined to sacrifice their lives in the hope of saving their offspring. After about an hour the cats came into the house, but they were soon attracted to the garden again by the blackbirds, who came up to the door and continued their tirade, a deliberate challenge if ever there was one. This time the younger cat climbed an apple-tree, where both birds immediately attacked him from different angles, frequently sitting within a few inches of him and exhausting every device to drive or lure him away. Once the cock bird went close enough for the cat to strike him and knock some feathers out. Eventually the cat came down the tree and stumbled on the hiding-place of the young bird, which, of course, he caught. I rescued the bird without delay, and apparently without injury. The cats were then shut up and the young bird placed on the lawn, where he hopped about. His father

came and inspected him, and was evidently satisfied, as both the parents retired and we saw them no more. The young bird was placed in comfortable quarters for the night, but it must have been injured, for it was dead in the morning. The sequel is pathetic, for the parents—whose nest is not in our garden—ceaselessly search and call for their missing young one. Are not such bravery and devotion unusual?

PERCY CREED.

August 2, 1919.

PHILOPROGENITIVE FRENZY

In the *Spectator* of August 31 Mr. Geo. Smith wrote under the above heading, and asked whether a family of six cygnets is not an unusually large number. I do not think it is—indeed, a pair of swans near to where I am writing has seven, and last year the same pair had six cygnets; but in regard to your editorial footnote to his letter, in which you express “wonder whether the pride of the cock bird is actually in the magnitude of his family.” I can produce facts which will answer your inquiry, and may be of interest to some of your readers. Once when staying at Weymouth, I took the opportunity of visiting the swannery at Abbotsbury, which, lying as it does at the back of the Chesil Bank of shingle, is not far from the island of Portland. Here there were, at the time of my visit, somewhere near a thousand of these stately birds, the piece of water and the adjacent marsh allotted to them being upon property belonging to the Earl of Ilchester, and dating, tradition says, from the time of the Saxon Kings. It happened that I went there in the height of the breeding season, when the marsh was studded over with hillocks raised by the birds as their nests; on each, from which the occupants had not already hatched their brood and taken them to the adjacent sheet of water, was a sitting swan. I noticed that amongst

the broods already upon the water there seemed to be a constant scuffle going on amongst the male birds, and upon inquiring of the intelligent keeper who accompanied me, and without whom, indeed, it would not have been safe for a stranger to walk amongst the sitting birds, he told me that every year this went on, the male birds fighting with each other in the endeavour to obtain cygnets from other broods to add to their own, the consequence to the poor little cygnets themselves being that numbers of them were killed in the turmoil created in this strange process.

T. A. AYSCOUGH.

September 14, 1918.

WOODCOCKS AND THEIR YOUNG

I believe the fact of woodcocks carrying their young when small to feeding-grounds is so well authenticated as hardly to be worth recording, but the following incident which I last week witnessed seems to me to be. I was walking through a wood here—a man immediately behind—when we nearly trod upon three young woodcocks under a large oak-tree. They flew away and pitched some little distance off. A fluttering went on on the ground, when the old woodcock slowly rose, carrying in her claws a young one more than half as large as herself! It was so heavy she could hardly carry it. She glided gently down, perhaps fifteen yards off, put it in some dried fern-leaves and grass, and flew away after the others. She seemed to wrap her tail round it, holding it firmly in her claws. I was within a yard of her when she started, and was amazed at the performance.

E. R. DURNFORD.

May 24, 1917.

NOTE.—The woodcock seems to vary in her choice of perambulator, but as a rule she carries her young pressed close to the body between the thighs. As Mr. Coward

says ("Birds of the British Isles and Their Eggs"), some woodcocks have one method, some another. There is far too much mechanical rule-of-thumb in the study of animals.

A TUNISIAN GANDER

With reference to the letter signed "G." in your issue of the 10th inst., when living some years ago in Tunis I possessed a gander both wiser and better than G.'s, which began by stealing the goslings of another gander—as the gypsies whom we used to read about stole little children—then in fits of foolish and wicked jealousy used to beat with its wings "H." (presumably a benefactress) most fiercely for being kind to his wife, and finally deprived his owners of a good and succulent dish—for those who like it—by going on hunger strike when his wife died. My gander had a better record; for when he lost his mate he devoted himself to good works and acted as the benevolent policeman of the poultry-yard. He never allowed any fighting, and if two cocks began to spar he would waddle up, and in an amiable but most authoritative way, separate them with his long neck, giving each a gentle but definite tap with his beak, as an earnest of what might happen if any more quarrelling went on. This was always effective, and my poultry-yard became consequently an abode of peace and a model to all the neighbouring seraglios, Mussulman or poultry.

W. HAGGARD.

A DEVONSHIRE GANDER

Some years ago we possessed a goose and a gander. For some reason or other the goslings were taken away from them, and the gander went off to the next farm, and brought back other goslings. The farmer came down to ask if we had seen his missing ones, and, lo and behold! they were in our field with our gander. He must have

beaten off the farmer's gander to get them. He did this once or twice, and finally we had to give him back to his own family. The goose was very fond of H, and she would sit on the ground, and the gander would make a sort of nest on her lap; and the gander was so jealous he would come and drive the goose off and would beat H. with his wings most fiercely. The goose was killed by some unknown wicked boy, and the gander wandered all over the fields looking and calling for her. He would not eat, and finally died of starvation. I can vouch for this story, as the goose and gander belonged to my cousins.

Z.

BLACKBIRDS *v.* CATS

May I trespass on your space to tell a little bird story? There was a time when our suburban garden was much infested by cats, to the great disgust of the birds. When we heard the well-known cry of expostulation from the blackbirds, we and the dogs used to run to the rescue and chase away the intruders. So often this happened that at last the dogs would, without our intervention, answer the appeal, and rush with tumult from the house to find the enemy when they heard the particular note of alarm. One day my sister was walking in the garden when she heard a blackbird telling her that danger was near. She followed the call till the bird showed her a cat sound asleep on the roof of an outhouse. When this momentarily harmless foe was dislodged, the call continued and the bird led my sister for some distance to a plantation, where another cat was found sound asleep, also among the bushes. This cat being disposed of, the bird was quite content. We were immensely flattered to find that our small friends realized and appealed to our power and willingness to help them. They were absolutely *wild* birds, not pensioners.

B. BALFOUR-MELVILLE.

September 18, 1915,

A THRUSH'S NEST

As a regular reader of your paper for more than thirty years, I know what interest you take in questions of natural history, and I am sure you will be interested in the following story. About half a mile from where I now write is a railway crossing; close by is a signal-box and a signal-post with two arms and two platforms. On the lower of these platforms, close up to the post, a thrush built her nest. Twice during the day a man has to go on to this platform to attend to the lamps, and during the last few weeks the arms of the signal were painted. From 5 a.m. until midnight nearly two hundred trains pass on each week-day and seventy on Sunday; yet in spite of these apparent drawbacks the bird hatched and reared five young ones, the last of which left the nest two days ago. The men who worked the box took the greatest interest in the plucky bird, and the whereabouts of the nest was widely known; yet no attempt at disturbance was made. I understand that the bird frequently allowed the regular attendant to the lamps to come on to the platform without moving, but if a stranger came she left at once and took refuge in a neighbouring tree. I was passing on one such occasion, and she gave audible evidence of her anxiety. Does this mean that she could distinguish one man from another?

H. MATHWIN.

June 6, 1908.

NOTE.—Judging by an experience of my own, I have little doubt that she could distinguish one man from another. Two pairs of blue tits nested in my London garden in 1920, and got so used to me that they would fly in and out of the nesting-boxes with my head leaning against them. But if a stranger came into the garden they would only come into their cottages from shopping after he had been in the garden for some little time and stood quite still at a distance.

A ROBIN'S NEST

I think it may interest some of your readers who are lovers of birds to know that a robin has taken up its abode in one of the bedrooms of a house here, and successfully hatched its young. It began building its nest on some books on a shelf; but as the books were being ruined, a box was placed in a corner of the bookcase and the sticks, etc., were carefully placed in it. The robins seem to have been very well satisfied with the change, for there are now five young ones in the nest. The old birds are having a busy time feeding their little ones, and seem to be quite at home, though the room is in constant use.

J. W. W.

May 11, 1907.

ANOTHER

In a disused stable behind my house there hangs an inverted human skull (left by a brother, now a doctor in India). On the orbit, and resting against the wall, about five feet from the ground, a robin has built her nest. There were six eggs, two of which are now hatched, and the birds have not deserted their home, notwithstanding the fairly constant observations of the family, which includes three boys, aged respectively two, four, and six years. The birds built although the gardener was constantly going to and from the stable, where the garden tools are kept.

X.

May 16, 1908.

NOTE.—Mr. W. H. Hudson has wished that when he is dead an adder will make a hibernaculum of his skull. I should prefer the robins. O Death, where is thy victory, when thou ministerest thus to the uses and victory of life?

SWALLOWS' NESTS

In the *Spectator* of August 25 I observe an interesting letter on the above subject. Of the barn swallow your correspondent writes: "They nest twice a year, never using the same nest." Now, this statement must be qualified, I think, as the following incident will show. Last year a pair of swallows commenced to build on the projecting ledge of a pillar supporting the porch of my house. They had reared a brood in the same place the previous year, and their presence was found to be rather objectionable on the score of cleanliness. My wife accordingly instructed the gardener to remove the half-built nest, and, to deter the birds from renewing the work of building, a small earthenware jar was placed on the ledge. After the lapse of a few days the birds were observed to be flying into the porch, and an examination showed that the nest was being built *on the top of the jar*. We did not interfere with this second attempt, and the result was a brood of four young birds, which in due time were fledged. The nest had not been vacated much more than a week when the old birds were back at it, and again a family of four was reared. While on the subject of birds it may be interesting to some of your readers to hear of the proceedings of a pair of thrushes which came under my observation three years ago. About twelve feet from one of the windows of my dining-room grows a large *Auricaria*, and on one of the branches, close to the stem, and on a level with the sill of the window, a nest was commenced. The position was most favourable for observation, and day by day we watched the pair of busy thrushes at their work. In the natural course of events the young appeared and grew apace. One day we noticed that only three young birds were in the nest instead of four, and we found that one had been pushed over the side of the nest and lost. Soon the family left home, and

after the usual help to start them in life the parents found leisure to inspect the empty nest. They evidently thought that with a little necessary repairs it might be utilized for the rearing of another brood. They seemed to remember, however, the sad loss of one of their former family, and concluded that the nest was too shallow for safety. They accordingly set about the work of raising the sides, and when the repairs were completed, the nest had the curious appearance of a ring of bright-coloured material, about three-quarters of an inch deep, all round. In this enlarged nest they successfully reared a brood of four.

RICHARD G. ROSS.

September 9, 1900.

NOTE.—The action of the thrushes demonstrates how intelligence co-operates with instinct. A special circumstance asked and received the response of individual experiment, and this response penetrated the instinctive faculty of nest-building. The latter is a congenital inheritance of the species as a whole, quite different from an acquired habit and depending on individual consciousness and experiment only in so far as a “perceptual purposefulness” (viz., intelligence) can perfect the working of an “instinctive purposiveness.” In an emergency, instinct, being no longer of service, is replaced by a full intelligence—or the individual of the species takes the consequences. Routine, of course, is a *sine qua non* of all life; we should not get far if we had to work out the physiological problem of putting one leg before another every time we moved about. But nature is properly fearful of too deep a rut, since stagnation is the enemy of change and reform. So life for the higher animals is never a jog-trot; its elements contain enough of the incalculable and indeterminate to be ever examining the living creature in fresh problems, to sharpen its faculties, to prod it into initiative, to awaken new ideas,

to ferment the draught and to charge the *vis inertiae* with changeful zest and savour. If this brings us a step nearer to comprehending the great mystery of how life has become transfigured "from a monad to a man" it does not lessen our gladness at and reverence for the way it has been done. It has been done by the rich creative power of living organisms themselves, perpetually "rowing against the stream," set poser after poser by the pressure of external circumstance and gallantly solving them.

What nature aims at is consciousness, the psychical control of matter and her unconscious activities are for ever breaking through into the conscious and economizing bodily functions to prepare the way of the conscious. The process of evolution is electric and dynamic, that is to say, and all things are always on the move, whether downwards (in some cases) or upwards (in the great majority of them).

A PAIR OF HOUSE MARTINS AND WHAT THEY ACCOMPLISHED

Even in the midst of the Education controversy, some of your readers may be interested to hear of a minor controversy which has been taking place between myself and two little High Wycombe workers, namely, a pair of house martins.

The point in dispute has been the site of their house for this year. A martins' nest has been built immediately over the porch of my house for the last three years, but owing to the litter on the doorstep, I determined this year to prevent its being built, and thought it kinder not to allow the birds to build the whole nest, but to remove the first beginnings, and thus persuade the little creatures to choose in good time another site for their house. I little foresaw the protracted struggle on which I had entered, which the following dates will show. On May 13 I first noticed that a large piece of the old homestead had

been rebuilt. This I at once assailed with a walking stick, to the natural resentment of the little builders, who screamed fiercely, but did not attempt to rebuild that day. Since then it has been a trial of strength between these plucky little birds and the big human being, showing, I think, some power of strategy on the part of the former and some signs of failing determination on the part of the latter. From May 14 to 19 there were daily buildings and destructions. On May 20 the nest was destroyed at 9 a.m., and at 11 a.m. a large piece was again built. This I did not touch; but, notwithstanding, on May 21 and 22 no building took place. From the 23rd to the 30th the nest was built and destroyed daily. On the 31st it was built but *not* destroyed, and, strange to say, no building took place for a week. One June 8 building again began, and continued to the 10th, after which, from June 11 to 30, nothing was built, and I fondly imagined the struggle was over, and that the birds had recognized discretion as the better part of valour, and wisely chosen another sphere for their operations. But alas! on looking out of my window this morning (6 a.m., July 1) I found a new mud wall erected, and my first work must be one of destruction.

The interesting point to decide is: Is it invincible determination or invincible ignorance on the part of these small creatures? The long spaces of time allowed to pass between some of the building operations would seem to show their wish to persuade me that they had given up all intention of building in the debated spot, and thus to throw me off my guard so that they could return to the attack unobserved. On the other hand, their coming back at all seems to point to some lack of intelligence on their part in appreciating the forces arrayed against them in the big human being with the strong will and the stick. Or perhaps, after all, they may be cleverer than appears, and may have gauged quite accurately the weak place in the big human being's position, namely, the soft spot in

the heart, which could not resist the appeal of their courageous sticking to their guns in spite of so much discouragement. For now—at 6 p.m.—the walking stick is still in the hall, and I am looking with undisguised admiration at my small assailants busily building ; and I should not be surprised if the martins had their nest for a fourth year over my porch !

ALICE A. BOWERS.

July 7, 1906.

[Our sympathies are entirely with the house martins. They have clearly established their right to make our correspondent's porch as untidy as they like.—ED.]

NOTE.—For my part, I admire Miss Bowers no less than the martins, since she has had the courage to give so very personal a modern rendering of how Saul became Paul. House martins usually add half an inch to the nest every morning to allow the material to harden, and take about a fortnight over the full job.

CONCERNING SWANS

For many years a pair of graceful swans have sailed on the lakes in the grounds of Meldrum House, Aberdeenshire, each like “ the swan that sailed on still St. Mary's Lake floated doubly swan and shadow.” But the other day the male swan, who was getting lame and evidently feeling the infirmities of age, while sailing with his faithful female mate, seized hold of her neck, and held her under the water until she died. Shortly after, he himself was found dead near the same spot, with his long neck and oary feet trailing in the water.

M. A.

NOTE.—Where is the poet to immortalize the picture and compare it with Ford's Giovanni and Annabella or the Oriental despots whose wives were cast into the flames

at their death? But we require no luxuriant poet to sing this swan-song, for "M. A" has conveyed its wonder to us in a prose of simple grace.

A HUSBANDLY COCK'S POLICY

With reference to the very interesting stories of bird-kindness which have been appearing in your paper, I am tempted to send you the following particulars of an incident which occurred in my presence, and in which, indeed, I was concerned, many years ago in the West Indies. Amongst the poultry at the Government House in one of our islands was a very handsome and very pompous cock—a "silver Martinique," I think they called him—bright silver all over, with blood-red hackles and comb. It was a constant source of amusement to me to watch the airs which this fowl gave himself, and it was only after much solicitation from me that he condescended to become friends. In the grounds of Government House stood the half of an old sugar boiler rising several feet from the ground, and so high as to make it difficult to see the water it contained for garden purposes unless one stood beside it. One morning, as I passed some distance from the boiler, to my great surprise my pompous friend suddenly attacked me, pecked hard at my toes, and beat my ankles with his wings. I could not imagine what possessed the bird, and at first thought that the servants had stupidly given him grain soaked in beer, as they used sometimes to do, and so had intoxicated the fowl. But a fluttering noise attracting my notice, I stepped forward to the boiler and in the water I saw a hen drowning. The poor lady had perched on the edge and stooped for a drink as was her custom; but the water chancing to be low, she had evidently overbalanced and fallen in. Now, her lord and companion must have argued in his mind that *he* could do no good in such trying circumstances, and, further that *I* could. Then he de-

liberately proceeded to attract my attention. I rescued the hen, and placing her bedraggled self on the ground, watched the pair hasten off—the cock progressing on his toes and giving himself the most absurd airs, and quite manifestly observing that if there were gratitude at all in hendom, it was his due for all time! I had never before credited these birds with so much brain power; and I admit that I should feel sceptical had I not witnessed the facts.

May 6, 1905.

THE DELUSION OF A DUCK

We were on our summer holiday and were playing stump-cricket in the stone-walled lane that led to our farmhouse: our bat a stick, our wicket a narrow packing-case, our ball the lawn tennis variety. I was a wicket-keeper, and a ball slipped past me into the scrub beneath a bramble-bush. I turned, just in time to detect the end of some movement which puzzled me. Presently I saw two very bright eyes gleaming in the shadow, and identified a sitting duck who needed no instruction in colour-protection, and our ball was peeping out from under her wing. Now the bird furiously resisted its removal, so we selected another for our game; but next time the ball entered the scrub I turned in time to see the duck leap from her nest, bill the ball into it, and resume her brooding. Again, furious resistance to every attempt to abduct the latest little stranger. After the game was over I pitched into the bush a ball of about six inches diameter; in a moment she had it in her nest and was trying to sit on it. Alas! she could not keep her balance on such an object, so she gave it the best she could, a motherly wing. Then came the farmer, delighted that we had found his "best layer"; so she was turned off in disgrace—off a nest, that is, containing two eggs and three balls. But

she had her revenge at 3 a.m. next day, and turned the farmer out of his bed with her mournful lamentations. Well, sir, I want to ask your readers : (1) Did the duck (obviously angry) believe that we were playing cricket with her eggs? (2) What is the size-limit of the brooding instinct? Would she have tackled a football?

C. CAREY TAYLOR.

A BIRD'S ALTRUISM

I know that you are interested in birds and their ways, and I think you will like to hear of an instance of sagacity and sympathy on the part of a rook in my garden. We feed the birds and always have water for them, and lately a poor maimed rook has been coming with the others. He has lost one leg altogether, and the other hangs limp and useless without any foot. It seemed so pitiful to see him trying to get along on the ground with the help of his wings that I thought it would be the kindest thing to have him destroyed, but the following incident happened which made me feel that the sentence must be suspended. The poor thing was on the lawn with three others. The three all drank, and two of them flew away. The one that remained stood before the cripple and bowed several times till his head nearly touched the ground, then he walked all round him as if considering what to do, then with a sudden determination he carefully put his wing under one of the cripple's wings and dragged and supported him to the water.

The basin is rather high, so when they reached it he gave an extra tug to lift him up, and after filling his own beak and dropping water into his friend's mouth, as if to show where the water was, the invalid was able to reach it for himself. This happened two days ago, and a member of the family who observed the birds a great deal think that the maimed bird is a hen and that the

chivalrous friend is her mate, because next to one of the nests a large rook is constantly perching, and he is seen to feed the inmate. But water he cannot bring, and for that she must come down. But whether he is a husband or a friend he shows devotion and intelligence.

KATHERINE EVERETT.

April 13, 1912.

LATE NESTING

I yesterday found in the wood here a wood-pigeon's nest with the bird sitting on two eggs. Is not this nearly a record for late nesting?

ST. DAVIDS.

October 28, 1911.

NOTE.—Possibly her earlier clutches had been destroyed or taken. There are, however, records of the wood-pigeon nesting (third brood) in October. One is of the hen-bird sitting on two young on October 24, 1920; another of young hatched on October 29, 1900, and a third in the last week of November (see *British Birds*, December, 1920). Examples of fine and futile avian storge.

NOTE.—The last score or so of valuable accounts of bird behaviour towards their mates or young may be all more or less correlated to and in a single explanation. Fundamentally, they are different expressions of one and the same thing—the unique and dominating passion of mating and parenthood. This takes a variety of forms—in the attempts of the male to win the love of the female by song, by dance, by aerial display, by pranking out the plumage, and parading his general attractiveness, and by her choice of her mate through the successful excitation of her sexual interest; by sex-dimorphism, manifested in the acquisition by the male of special decora-

tions or a fresh lustre and brilliance to its normal plumage, etc. The love of mates then broadens and develops into the no less intense love of parents. As J. G. Wood, in his account of the humming bird, expresses it :

“ The female needs no song nor glittering plumage for the expression of her love, for she performs in loving acts the sympathies which her mate expresses in colour, form, or sound, and while imparting the divine element of love to her callow young, she utters and incarnates her song of praise through the coming generation. She freely gives her whole being for the welfare of her young and finds the most exquisite delight in utter abnegation of self. Her mate sings the song, but she performs it, and manifests her love in a melody more fruitful than that of her mate, because so many beings are evolved from it, and her fear being conquered by her love, boldly attacks with dauntless heart the would-be destroyer of her domestic peace.”

The thing to note, then, is that the love of birds for their mates and young is a concentrated drama of the whole spring resurrection. It is a seasonal thing and quivers in a wonderful responsiveness to the total awakening of nature. Birds undergo a kind of metamorphosis ; their whole being is transfigured and they pass into an intoxication which is as wine to water compared with normal existence. And this emotional condition corresponds with a profound constitutional change, a change in the metabolism of the body, which affects the physical appearance of the male birds and the energies of both sexes. It is not extravagant to say that the birds are new beings, psychical and physical beings both. It is not surprising, then, that this sublimated impulse should express itself not only in varying but in contrary forms—in blind aberrations as in the swan fighting for the cygnets and the duck brooding the cricket ball, and in an absorbed sacrifice and selfless devotion as in the black-birds attacking the cats. The accounts of birds nesting in close proximity to man are a kind of blend of the two. Wary and very intelligent birds like carrion crows and

mistle-thrushes often build their nests in the most exposed situations, and passion is often as blind as it is devoted. Indeed, the most remarkable feature of the cat and blackbird incidents is not the attitude of the birds but the cats. They cannot stand up against conviction, and it is the same in human affairs, though we usually martyr it in our dislike and fear.

II

BIRDS THAT TAKE THE WRONG TURNING

THE CRIMINAL CUCKOO

I

MAY I be permitted to add to your answer to the inquiry in your last number about the power of the cuckoo to alter the coloration of its eggs? The cuckoo does many wonderful things from its birth to its death, but it has no power to colour its eggs according to its own wish, and once the egg is laid the colour is fixed. The average tone is that of something between the skylark and the wagtail, but it also lays eggs as blue as a hedge-sparrow, red as a robin, and even quite white. The cuckoo lays from five to eight eggs at intervals of about four days. My theory is that the cuckoo resembles the guillemot, which lays different coloured eggs, and that one cuckoo always lays the same coloured egg, be it blue, brown, white, or red, or any variety. It has laid its egg in the nests of some forty birds which breed in England, and has no fixed rule—*i.e.*, the blue egg is found in many nests where the egg of the foster-parent is very different. A young cuckoo is by nature entirely selfish, for in a few hours after birth it begins to eject (aided by a cavity in its back, which fills up in about ten days) the offspring of its foster-mother from the nest, and should there be another cuckoo in the nest, the weaker is heaved over the side. It is a great pity that Miss Hilda Terras, in her charming book to which you refer, did not give us photographs of the acts of ejection. We have a lot of cuckoos round here. I have

seen them searching the ivy-covered walls for nests for several minutes within thirty yards of a tennis court in play, and on June 7, 1917, I heard a cuckoo between 7.55 and 8.15 p.m. (G.m.t.), call 220, then 107, and again 14 times. The bird was close to me, and flew several times to another tree and returned, calling many times whilst on the wing.

WILLIAM NEWALL.

P.S.—I have a neighbour who shoots cuckoos because “they are such immoral birds.” He might as well shoot sparrows. The only two English birds I know which marry for life are the raven and the peregrine.

II

The late Archdeacon Basil Wilberforce's statement about the cuckoo's eggs in Mr. Hart's museum at Christchurch is quite correct. Mr. Hart has often shown me the “clutches” mentioned, and the similarity, in colour and marking, of the cuckoo's egg to its surrounding companions is very marked. Mr. Hart's theory, as he explained it to me, is that this similarity occurred only when the cuckoo could *see* the eggs among which she proposed to deposit her own. In a domed nest, such as a wren's, where the eggs were hidden, the likeness did not occur. In Alfred Newton's “Dictionary of Birds,” p. 121, he discusses the matter at length, and quotes Dr. Baldanus as a witness to the fact that the cuckoo frequently, if not invariably, lays eggs resembling those in the nest she has chosen as her own receptacle. Mr. Alfred Newton states, in a note, that he saw Dr. Baldanus's collection of “clutches” in 1861—a collection which seems to have resembled Mr. Hart's. He also states, however, that “no likeness whatever is ordinarily apparent in the very familiar case of the blue-green egg of the hedge-sparrow and that of the cuckoo, which is so often seen beside

it"; and goes on to say that apparently the hedge-sparrow is, as a rule, more easily "duped" than other birds, such as the red-backed shrike, bunting, redstart, etc. Certainly the hedge-sparrow is much more indifferent as to where she builds her nest!

I do not, personally, remember the hedge-sparrow's eggs in Mr. Hart's collection—where the cuckoo's egg was the "bright blue" spoken of by Archdeacon Wilberforce—but in a collection of some forty "clutches" I might easily forget one in particular. Certainly the whole collection is very impressive.

BLANCHE WINDER.

III

It is, I believe, generally accepted by ornithologists that the eggs of the cuckoo usually resemble in colour, but, of course, not in size, those of the intended foster-mother. The evidence of Mr. Hart's collection of over forty eggs, which I also have seen, would appear to be conclusive on this point, and one can only assume that the egg, to which Miss Hilda Terras refers in her book (which unfortunately I have not yet read), is an exception to the general rule.

It is by no means certain how it comes about that cuckoos are able to lay eggs of such varying types. Apparently Mr. Hart's theory is that the female decides on the species of bird in whose nest she will deposit her eggs, and that she is then able to transform them in some way so that they resemble those of the bird she has selected. A parallel to this remarkable attribute may be found in the case of the chameleon, which is able to change the colour of its skin at will, but I am inclined to think it more likely that each cuckoo always deposits its eggs in the nest of the same species of bird, and therefore always lays a similar egg. Whether a cuckoo which has been hatched in the nest of (say) a wagtail will lay similar

eggs to those of its mother, and itself also deposit them in wagtails' nests, I am unable to say, but I think it probable that such is the case. I presume that the various types of cuckoo's eggs have all been gradually evolved from a common stock, and this could hardly have happened if the young birds did not follow the rule of their parents. It must, however, be admitted that, in order to accept this view, one is almost compelled to assume that the paternity of a female bird has no influence on the colour of its eggs, but this does not seem to me to present an insuperable difficulty.

There are several other species of birds which, for no apparent reason, lay two or more entirely different types of eggs. Red-backed shrikes, blackcaps, garden warblers, and tree pipits occur to me at once, and I have no doubt that there are several others.

In the case of the first-named bird I have been told—I believe by Mr. Hart—that in its first year it lays the red eggs, and in its second and succeeding years the greenish brown ones, but this theory can hardly be extended to the blackcap, which lays three distinct types of eggs. The only explanation of this difficulty that I can offer is that there were originally three distinct species of bird of the warbler tribe, and that they have now become merged in the blackcap.

A. W. T.

IV

With reference to your interesting article on the cuckoo, published in the *Spectator* of April 21, the writer of the article seems to suggest that the cuckoo has the power of imitating the colouring of the eggs of the future foster-parents. Is it not much more probable that the cuckoo after laying the egg, selects the nest which contains eggs most nearly resembling its own? I have more than once found the egg of a cuckoo, perfect, and placed carefully

in a soft and sheltered spot. On one occasion I marked the spot, and returned later. The egg was gone. After a careful hunt I found a sparrow's nest with a cuckoo's egg in it, about fifty yards from the mark. The difference of colour in thrushes' eggs in the same nest is often marvellous; and in their case I believe it depends largely on the age of the bird, and the number laid previously; it may be the same with the cuckoo. Pheasants are another example of this diversity of colour. An old forester in Bedfordshire told me once he had several times doubted the possibility of a nest full of eggs all being genuine "till they was hatched, then they was all right."

G. STUART.

April 28, 1900.

NOTE.—The noes have it, I think. The principles of the controversy may be stated as follows. Either the habits of the cuckoo are part of nature's general law of selfishness and indifference and have been welcomed, seized upon, and perfected by natural selection or the disuse of the maternal function and development of parasitism are an expression of the bird's character and a corresponding physiological condition. If the first is true, then the party of Miss Winder wins the day; if the latter, the party of Mr. Newall. Take the physiology. The reproductive organs of both sexes (see Geddes and Thomson's "Evolution of Sex") are very small for the size of the bird; the parturition is sluggish; there is a diminished blood supply, and the appetite is gluttonous to such a degree that the bird is positively dyspeptic! The small size of the eggs and their irregularities of colouring are a natural result of the bird's constitution. The constitution is a natural result of the bird's character. The males of the species are in the majority and the female is polyandrous. There is no true pairing and the relations between the sexes are purely sexual. The birds are very quarrelsome and anti-

social, even on migration. And what an ill-conditioned lout is the youngster, with the true manners of a new-rich profiteer and a greed which might do credit to an old Roman decadent! The cuckoo, in fact, is a parasitic degenerate, in whom the maternal passion, so strong among birds, has become corrupted and practically dis-used, and the general cause of the lapse from avian grace is surely an inferiority of character which failed to meet the high responsibilities of nurture demanded of the feathered tribes. The very sight of the bird gives it away; it is somehow out of health, out of tune. It has the appearance of a spiritless, lackadaisical hawk; it looks the part it plays—that of a trickster which has exploited the devotion of its fellow-birds but at the expense of a harmony, vitality, and intense response to life which they, its victims, possess. Quite apart, then, from the actual evidence that the cuckoo constantly blunders in foisting its offspring upon other people's doorsteps and planting eggs upon them which frequently do differ in colour and markings from the legitimate ones in the nest, I submit that degeneracy implies not an accentuation but a blunting of mental faculty and that there is no ground at all for crediting this sluggish, mean-spirited bird with an abnormal foresight and cunning. The cuckoo only cares just enough for the future of its offspring to deposit the egg in security. And is it not possible that she will one day go a step too far in indifference and leave her egg upon the ground? That, at any rate, is what the South American parasitic cow-bird (*Molothrus bonariensis*) does and survives only because it lays an enormous number (physiological irregularity again) and deposits about half of them in the nests of other species. Unquestionably, the cuckoo's parasitism is an ugly phenomenon in nature, to my mind the ugliest of all, since its egoism preys upon the altruism of others and leaves them defenceless against it (as they are not against the bird of prey) through the dynamic power of the maternal feelings. But it should be

remembered that the cuckoo is out of moral and physical health and that its behaviour is a very rare exception to the general rule.

WRYNECK-MORALITY

I have this morning watched a performance on the part of a wryneck, which, as it is not recorded by Morris, or any other bird book in my possession, may perhaps be of sufficient interest to justify publication. Last year a pair of these birds noted some nest boxes in my garden as likely building sites, and kept three of them vacant for some time; I watched them eject bit by bit the entire nest of an unlucky blue tit, but to my disappointment—I never really sympathized with a house agent before—they departed elsewhere after about a week's hesitation. This spring they have reappeared and resumed the same tactics. A few days ago they made an attempt on a box occupied by a pair of nuthatches, but were defeated, either by the efforts of the owners, who, though alarmed, struck at the intruder repeatedly, or by the small size of the entrance, which had been reduced by a mud wall built after their fashion by the nuthatches. This morning my eyes were caught by the sudden appearance from another box of a wryneck and a great tit, locked in unequal combat. The poor tit had no chance in the open, and made off at once. The wryneck returned directly to the nest, which she started to throw out piecemeal, and three times at short intervals emerged with an egg in her beak, which she carried to an adjacent branch and ate, dropping the empty shell to the ground. An hour later the inside of the box was absolutely clean, from which it would seem that the tenancy, and not the eggs, was the prime object of the attack. At the same time, the charge of egg-sucking is a serious one to bring against any bird, and it would be interesting to know if it can be substantiated against the whole species, or is only the bad habit of a stray individual.

C. D. MOGGRIDGE.

BLACKBIRD-MORALITY

The following uncommon, if not unique, incident came under my observation this week. A pair of thrushes have built a nest in the ivy against the wall of my house. Early one morning I found there were four eggs in it. Half an hour later I saw a hen blackbird drive the thrush off the nest and take possession herself. By midday a blackbird's egg was deposited in the nest and one of the thrush's eggs was lying on the ground broken. The following morning the thrush again took possession, laid another egg in the nest, and is now patiently sitting on four eggs of its own and the intruding blackbird's egg. What was the motive of the blackbird? Had it no nest of its own? Is it developing similar tendencies to the cuckoo and placing its eggs in the nests of other birds? It is a curious problem.

JOHN W. SELLER.

May 24, 1913.

NOTE.—These two letters are of striking interest. They indicate in the first place the marked differences in character between individual birds of the same species—a difference noticeable even in the quality of their songs and one which warns the naturalist not to be too facile in his generalizations of the habits of a species from the conduct of one of its members—and in the second that the peril of parasitism which we can quite legitimately call the temptation to sin is common to every species. Among our British birds only the cuckoo has succumbed to it, while the American cuckoo, who sometimes broods her eggs and rears her young like a respectable bird, and sometimes not, has compromised with the devil! If the cuckoos only took the wrong turning, we might argue that cuckoos and crime always went together like waiters and white shirts. But other people besides waiters wear white shirts and other families besides cuckoos are prone to baby-

farming. The South American cow-birds (*Molothrus*) foist their eggs upon other birds and in varying degrees of parasitism: *M. rufoaxillaris*, hers upon a congener, *M. badius*, and the similarity both of the eggs and the chicks in the two species is so exact that the two families are reared in the same nest without any sacrifice. Parasitism has become, as it were, so specialized as to be immune to itself. Now the cow-birds are distant relatives of our starling, which does sometimes appropriate the nesting sites of woodpeckers, wrynecks, nuthatches, etc., a departure on the borderline of parasitism. There is nothing at all surprising in this. For if human virtues can be paralleled in the animal world, as without any question they can be, we should expect to find analogues of human vices. And we do find them (the weasel, for instance, appears to have a taste for blood over and above the utility of killing for food, which is not a vice but a natural law), though very rarely, obviously because animals are less highly developed in moral complexity than we are. And if the process of evolution implies the gradual working out of the egoistic strain in life and the equally gradual working in of altruism, or rather a gradual refinement of and harmony between them—as it is quite legitimate to think it may—it is not at all remarkable that we should find examples of (mostly individual) animals sinning against the light—their light.

III

BIRTH, SLEEP, AND DEATH

SWALLOWS AND PARTRIDGES

LAST year, coming from Tunis to Marseilles in the early spring, we were delighted at dinner time to see six swallows all in a row sitting on a bar above the saloon dining table. They remained quiet all the evening and flew away in the morning. Did their instinct tell them we were travelling north before they took a free passage on our steamer? Recently a partridge hatched off fifteen eggs close by this house. I had been carefully watching this nest for ten days. On examining the nest I found six of the shells neatly packed one inside the other, making a string on one side of the nest, while two doubles were fitted inside one another on the other side. The remaining eggs were broken in smaller pieces and lying around. Is this a common practice of the old birds?

E. TROTTER.

August 4, 1900.

NOTE.—Tired migrants often alight on ships, sometimes in swarms (viz., goldcrests). I quote Edward Jesse of the *Gleanings*: "It is a curious fact that when young partridges are hatched and have left the nest, the two portions of each shell will be found placed the one within the other." Jesse's explanation is absurd; the likely one seems to be that the white of the inner egg-shell is too conspicuous for safety.

THE SLEEPING PRINCESS

Can any of your readers who are wise about birds give an explanation of the strange and captivating behaviour of certain swifts, of which I subjoin an account? Ever since we came here, three weeks ago, I have noticed numbers of swifts hawking about in the angle of the hotel into which my bedroom window looks. Two or three days ago, on coming into the room, I saw a swift clinging to the lace curtain. I easily captured it, and at first imagined it must have stunned itself against the window, as, after a slight struggle on finding itself enclosed in a human hand, it lay quite still. Closer inspection, however showed that it was well and lively, so, not knowing what to do with it, I opened my hand out of the window as a suggestion that it was at liberty to fly away. But this it quite refused to do. It lay quite still in my open hand, not stirring a feather, its bright eye seeming to say "I wish you would shut again." Again and again I took it to the window, but each time it refused the opportunity of escape. I then kept it in my hand for about an hour, during which time it went to sleep. On waking, it gave a very human yawn, and seemed rather surprised to find itself where it was. I again held it out of the window, and after waving it up and down on my open hand as the politest form of intimating to the bird that it really must go now, it suddenly was off like a flash of lightning, thus proving that it was not at all hurt. My little guest seems to have given a very good account of his entertainment to his friends, for in a few hours' time two or three more came in to be treated in much the same way; and if I had not closed the window, there might have been half a dozen. One beautiful swift alighted on my hand as I was in the act of reaching out to shut the window, and held on for some seconds with most determined grasp while I admired his velvet head, bright, quick eyes, and

scythe-like wings. It was a pleasure to have the swiftest and boldest flyer amongst birds settling on one's hand of its own free will, and apparently enjoying being stroked and caressed; but what induced them to act so? It was not hunger, because their stomachs had been recently full. The only suggestion I can make is that the cold and wet of the previous days had deprived them of sleep and warmth, and I should add that a storm was going on at the time.

PERCIVAL SMITH,
Officiating Chaplain.

June 29, 1901.

NOTE.—I think there can be no doubt that the first part of Mr. Smith's letter is an illustration of a widespread phenomenon in nature—the "death-feigning" instinct. The swift, I think, did not go into a sleep but a trance; it did not yawn but gasped. The problem is whether in moments of great peril an animal deliberately "plays 'possum" and shams death, or whether the agony of fear induces a physical paralysis imitating the symptoms and appearance of death. Now this temporary suspension of life, a darkness that is not night, is one of nature's mercies. Suffering, that is to say, is never needless in nature; it is nature jogging the creature—"come, bestir yourself, or you are lost." Suffering is a stimulus urging us to get rid of it by tackling the cause—the aching tooth wails "take me to the dentist!" But when there is no escape, then pain departs, its mission accomplished. (See p. 49.) But it must have often happened that an animal, thus physiologically deadened, escaped its fate by its resemblance to a dead object, that this was taken advantage of by natural selection and acquired a definite survival value. Perhaps, therefore, feigning death is an example of the co-operation of mind with mechanism. The animal, that is to say, works upon the raw material of a physiological condition. It both feels and imitates the sleep of death, just as we

mentally cultivate and artificially prolong a pleasing sensation. Compare death-feigning, for instance, with that allied and most beautiful instinct of a bird which pretends to be wounded when the nest is threatened by dragging its body along the ground and fluttering its wings. The enemy's attention is diverted from the precious contents of the nest to the ailing bird. Many and many a time the bird must have paid with its life for its devotion, but so common is the instinct that it must have been of utility; the bird, that is to say, must have frequently both saved its young and escaped itself by drawing the enemy away and recovering from the fit or deliberately escaping. A big fact in nature is that "those forms of life tend to survive in which the individual is subordinated to the welfare of the species," for animals "spend themselves for the race." Here again mind works upon mechanism. There can be no doubt that the bird's intense and agonized solicitude for its threatened young does pull the trigger of a physical reaction and that the animal in nine cases out of ten lost its life by it. But if, as Mr. Hudson says, "this perilous instinct were washed in blood and made bright," if the animal played upon its condition and made it serve its ends, then the percentage of deaths would be lowered. The difficulty is in the use of the word "mind." Is this life-saving device a pure instinct—a germinal variation—or is it acquired by intelligent practice? If the latter, it is not transmitted, but learned over again in each generation. The whole question, indeed, is extremely complicated, but what we can be certain of is that there is something more than a physical explanation to both of these phenomena.

The "vapours" of Victorian fiction and fact are a useful parallel. These hot-house ladies used both to faint to the letter and pretend to faint for their own ends. They reacted constitutionally to emotional stimuli and so usefully that artifice encroached upon predisposition, building up a make-believe upon the reality.

A REDSTART TRAGEDY

In a box which I fastened to a Scots pine about three yards from my dining-room window two redstarts reared a brood this summer. All went well till about a week ago, when seeing one young one out with the parents, who had abandoned their nest, I took the nest. It was empty, but at the side of it, in the box, lay a dead cock-sparrow and two young redstarts—the redstarts evidently having died subsequently to the sparrow and being nearly ready for flight before they died. Can any of your readers explain this mystery?

A. J. SWINBURNE.

July 6, 1901.

NOTE.—The weekly *Spectator* went on and there was no answer; years after, the letters go into a book and still there is no answer. If the reviewers maintain the continuity of silence, then we are done.

A BIRD PARTY

All lovers of birds will be grateful to "X." for his article in your last issue. It has been my practice for several years to scatter each morning a plateful of crumbs upon the lawn in front of my study window, and if I have not, like St. Francis, preached sermons to "my dear sisters, the starlings," I have at least been a constant observer of the manners and dispositions of my guests. In these there is great variety. The robin, for instance, whom we all love, is really a very quarrelsome fellow. Two cock birds will never feed together, but eye one another a foot apart, swollen with minute anger, till they rise, and there is a battle in the air. The blackbird, handsome as he is, has much of the bully in him. He drives other birds away, and would rather miss his portion of the feast altogether than allow another of his kind to take his share while he is by. Moreover, he is no

feminist, but as old-fashioned as St. Paul in his view of the other sex. In true male insolence he will banish the hen bird from the ground till his turn is done. Your real gentleman in the party is the chaffinch. He always comes alone, never in a hurry, never insistent, always a little apart, taking his crumbs with a graceful indifference. The wagtail, too, when he comes—as a rule he prefers an insect diet—has the air of an aristocrat. Unlike the chaffinch, he usually brings his wife. The democrats, of course, are the sparrows, always there, the common folk of the land, but as good as their betters, with a sense that the place belongs to them, as though they had caught the spirit of the age. No one molests them; they are happy fellows, and the rest take them for granted. Now and again, in the winter, you may see a hawfinch, a heavy, clumsy fellow, but he comes in as a stranger and is clearly not at home. Sometimes the starlings arrive; they are a gregarious lot, greedy too, gobbling their food in vulgar haste. It is quaint to see the young birds, when almost full grown, squatting helpless with their beaks agape till the parent bird packs in the food, oblivious, like some other parents we know, that the children are older and bigger than they are. Sometimes the thrush pays the party a visit, but crumbs are small fare for him, and he prefers to tug out of the lawn the long, round worms which are his delight, suggesting, as he gulps them down, awkward questions to the country rector's mind, should he happen to be meditating on the traditional benevolence of the Unseen Power which lies behind nature's cruelty as well as behind its beauty and its interest, with whose existence and character we have, too, in these sad times to reconcile in some way the warfare not of robins only but of Empires.

R. B. TOLLINTON.

September 4, 1915.

NOTE.—Mr. Tollinton goes and spoils it all by his last sentence. The fact is that there are very few phenomena

in nature which countenance or parallel human warfare—viz., the battles between different species of ants, between termites and true ants, between thickly grown seedlings, between locusts foodless after eating all the vegetation, between some fishes, and between hives of bees whose normal existence has become disrupted. The internecine competition between the black and the brown rat is another example of a presumed natural justification of human warfare as indispensable to the struggle for existence. Unhappily for the theory, the brown did not exterminate the black, which still exists in our midst! The brown is the shyer species and confined more to barns, so that it is less frequently seen. There was no competition at all. "Each species has its different aptitudes, capacities, and preferences, and each insinuates itself into the most suitable environment." After roaming about in my mind and consulting various authorities, the only other genuine examples I can find are those of the young of the roaring buckie and common dog-whelk, which attack and devour one another in their egg-cases, the heartiest appetites surviving. There are others, but they are so extremely few as to count a feather's weight in the total order of nature. I cannot go widely into the matter here, but if we ask ourselves what nature cares about more obviously than anything else, and apart from all ethical and metaphysical problems, the answer would surely be "*good stock*," the survival of the fittest to the given conditions, and the elimination (whether lethal or reproductive) of the less fit. If there is anything that can be dogmatized about modern war without controversy, it is that it replaces good stock by bad stock in the first place, and that it spells havoc, chaos, and dissolution in the second. It is against the orderliness and stability of nature. It is an appallingly efficient flower-killer. If, on the other hand, Mr. Tollinton means that the "struggle for existence" gives a moral certificate to human warfare, he speaks, if he will permit me to say so, upon an insuffi-

cient acquaintance with the facts or a far too narrow and partial reading of them. The "struggle for existence" is called by one of our greatest, if not our greatest modern biologist, the "clash of life against its environing difficulties and limitations." It is the response of the organism to them, an expression of the will to live, an "endeavour after well-being." Naturally, it takes complex forms, some individualistic, others altruistic. Sociability, for instance, actually plays a bigger part in the drama of natural life than aggression. "Sympathy," wrote Darwin, "will have been increased by natural selection; for those communities which included the greatest number of the most sympathetic members would flourish best and rear the greatest number of offspring." And does not Mr. Tollinton tend to overlook the fact that the most heavily armoured are the oldest stock?

Lastly, I demur at Mr. Tollinton's phrase "nature's cruelty." Is it cruelty to eat flesh? If so, then all humanity, or nearly all, is cruel. But to kill things for the necessities of existence (*lex est non pœna perire*) is not cruelty to the healthy imagination. In nature, animals kill one another in order to live, and in 999 cases in every 1,000 the death of the killed is practically instantaneous, a shock like the banging of a door, while the expertry of the killer is as highly specialized as that of the trooper slicing a lemon. The examples of torture (viz., genuine cruelty) are even rarer in nature than those of warfare between allied species or individuals of the same species. In nine cases out of ten the clamour about "nature's cruelty" is a morbid sentimentalism. Mr. Tollinton's is a tenth case and therefore he will not take it as anything else but a desire to arrive at the truth if I quote Bacon :

"This I dare affirm in knowledge of Nature, that a little natural philosophy, and the first entrance into it, doth dispose the opinion to atheism, but on the other side, much natural philosophy, and wading deep into it, will bring about men's minds to religion."

That there are discords in the "onward advancing melody" (as Lotze called it) of evolution, disharmonies in the great creative pattern, none but the disciples of Rousseau's static view of nature would dispute. But the shadows recede with the advance of knowledge and against them I may quote Professor Thomson in the "System of Animate Nature":

"The plasticity, the adaptations, the progress, the interlinkings, the joy, the happiness, the masterpieces, the note of gentleness, how they make the shadows shrink!"

And they shrink with the advance of evolution as well as knowledge as we, in spite of our far worse disharmonies, move on from barbarism to civilization. It is all one process: "In insisting upon the continuity of nature," says Professor Blewitt in "The Study of Nature and the Vision of God,"

"men of science have been better theologians than the theologians themselves. If God exists at all, He is the God of all nature and of every natural law. There are no gaps in His workmanship nor breaches of continuity in His activity. If the theologians would be true to theology, what they have to do is to protest, not against the principle of continuity, but against too narrow a reading of it and too narrow an application of it to reality. The true field of the principle of continuity is the total history in time, the total evolution, of the universe. And so viewed, it is simply one way of apprehending the essential rationality of God and of the divine action in nature and in history."

God, cast out of nature, is exiled from man.

IV

BIRDS AND THE ARTS ILLUSTRATED IN THEIR MUSIC, DANCING, PAINTING, ARCHITECTURE, DRAMA, AND FLIGHT, TOGETHER WITH SOME CRITICAL APPRECIATIONS

THE SONG OF THE RED THRUSH

I ENCLOSE a cutting from the *Spectator* dated January 18, which reached me in the wilds of Africa some six weeks ago. As you will perceive, it is part of your review of Mr. Alexander's book, "From the Niger to the Nile." I, too, lay claim to have heard music such as he so ably describes, but in a far different place, viz., in the desolate sudd swamps to the west and south of Lake No. I was unprepared to hear anything so beautiful in such a spot, and I have no idea what produced what I have heard, for I have met this music nowhere since. There were no trees, there was apparently no dry land: only river, and pools, and swamp, and tangled grasses for some dozens of miles. I leave it to those more learned than myself to discover whether the music was produced by birds, fish, or insects; but this I know, that the songsters commenced shortly after dark, and continued with an ever-increasing volume unto dawn—"as beautiful as the nightingale, notes from a hidden Paradise." I am indebted to Mr. Edwards, engineer of one of the Nile gunboats, for warning me of this free musical festival. For those lovers of music like the writer who are desirous to hear for themselves I will give the two following hints:

first, they must travel towards Vau in October; and, secondly, although travellers may be disappointed at the warmth of welcome extended to them by the inhabitants, yet they may count on the warmest greeting from the mosquitoes.

ANOTHER RIFLEMAN IN AFRICA.

The passage to which our correspondent alludes reads as follows :

“ It was around these green-shaded watercourses and round the lily pools . . . that I heard for the first time the entrancing song of the red thrush. More lovely in voice than the nightingale, more shy than he, his song seems the soaring spirit of the haunts in which he dwells : first, whispering notes like little puffs of wind through green leaves ; then a soft soliloquy of liquid sounds like the stream that runs below his singing-bough, so sad that it is surely here beneath these waters that Narcissus lies. Quicker and louder mounts the song, to break in long notes that swoop and thrill with a passion that is all the sweet bird’s own. Hours have I watched to catch sight of the maker of such pure music—but never to see more than a flash of red in the interval of silence before the fountain of song began to shower again from some fresh-enchanted tree—until I almost came to believe that it was a spirit bodiless, and to think it most right that a voice which could interpret the heart-beat of Earth, should be too great to dwell in tenement more confined than air.”
—ED., *Spectator*.]

August 15, 1908.

NOTE.—I have been unable to identify this red thrush. The red-bellied thrush (*Turdus rufigentris*) is an inhabitant of South America and an inferior singer to our throistle. It is certainly surprising to meet with a fine songster in tropical countries (the pellucid chime of the campanero or bell-bird of Brazil, is hardly a song), the

lyrics of tropical birds' lives and loves being expressed in colour rather than sound. But English and European birds are by no means the finest singers in the bird world. The singing birds of the United States (blue-bird, hermit thrush, bobolink, etc.) are but little if at all inferior to our own, and the mocking birds of temperate South America are of the royal purple in song. There is a very beautiful description of the white-banded mocking bird's (*Mimus Triurus*) song in Mr. Hudson's "Birds of La Plata," and he concludes: "Shortly after hearing it, I visited England, and found of how much less account than this Patagonian bird, which no poet has ever praised, were the sweetest of the famed melodists of the Old World." No, but a prose-poet has.

SONG THRUSH IN DECEMBER

While walking across St. James's Park on December 19, about 1 o'clock, I was surprised to hear a song-thrush in full song. Is not this extraordinarily early for the thrush to resume his song? Gilbert White gives January 6 as the earliest day in his experience, and Markwick gives January 15. Usually, I think, the song is not heard before February. I do not recollect ever before to have heard the song-thrush in December.

W. M. CROOK.

December 24, 1904.

NOTE.—I am diffident in disagreeing with Mr. Crook, but my experience is that the song-thrush sings the whole winter through—if the weather is kind—though amateurishly, patchily, and infrequently. He possesses, in fact, precisely the popular notion of the "artistic temperament," buoyant and impressionable to the faintest softening of the season and a "too-quick despairee" when times are hard. His adventurous Esau of a relative, the mistle-thrush, on the other hand, never sings until February.

BIRDS AND THEIR SINGING

I think a point was missed in your article (*Spectator*, February 23) when you spoke of the "chorus you will hear . . . in the summer twilight." This chorus is, in my experience, far less than the one you will hear if you care to rise at *dawn* any time, say, from mid-April to mid-May. The rush of song at such a time is something to be remembered. I first realized this in the late "seventies," when, in a Shropshire village vicarage, I was obliged to go for a doctor on April 20 at 3 a.m. I was astonished at the vehemence of the chorus. The blackbird in particular at such a time (as I have often noticed since) sings at a pace which he never equals at other times. He simply pours out his notes, and gives you the idea that he is dancing along the bough at the same time, or, at least, far from still. The thrush, too, though always leisurely in his note, at dawn seems marvellously copious in notes. I wonder if many of your readers have ever noticed what a long period of song the thrush has. I have heard him here as early as September 5 and (in Kent) as late as July 23. The blackbird is rarely heard before January or after June, as far as my experience goes. With anything like a trained and observant ear how much the voices and notes of birds tell us—sounds that often seem quite lost upon the generality of even country people. As I sit in my study in spring and summer months with the window open how well I can tell all that is going on. The peculiar note of the thrush on such occasions tells me that my cat is dangerously near a nest in a bush by my window, and the *wailing* of the little robin conveys the same message. I know when my peacock is spreading his tail without going to see, and the guinea-fowls' clatter says a stranger is about; and the same strange clatter just after they have settled in the roosting tree tells you of a fine day

to-morrow ; and as to domestic fowls, from chicken to old rooster, it is almost impossible to say what they have *not* to tell you about all that is going on. But the subject is endless !

R. POTTER.

May 4, 1901.

NOTE.—The old tales are true to science and life. The pelican piercing her breast for her young symbolizes the parental love of animals ; the salamander in the flames the biological truth that the living creature burns its life away but is not consumed ; the phoenix on its funeral pyre the immortality of the species ; the sleeping beauty the awakening of spring, and here is Mr. Potter one of the polyglot heroes of the Arabian Nights ! No doubt, the saying “ a little bird told me ” (see Tylor) is derived from the old beliefs that privileged persons understand the language of birds and beasts.

THE ENGLISH MOCKING BIRD

I was very much interested in your article on “The English Mocking Bird ” in the *Spectator* of May 25. The starling has always been a favourite of mine from the time when, as a boy, I used to listen to the male’s varied song and watch his swelling throat as he stood in all his glory of iridescent purple and green just outside the hole where his nest was built in an old chimney close to my bedroom window. This part of his song is not a half-angry challenge, as some songs are, but a bubbling over of the delights and pleasures of living. He can, however, be very plaintive at times ; and if his home be near a church, he will sing you a curious air, ascending in the minor key, distantly resembling a Gregorian chant. He can also, as you state, tune his voice to surrounding sounds. At Painswick, for instance, one of his favourite notes is precisely the same as that given out by one of the high-

pitched bells. I have never heard quite the same tone elsewhere.

RICHARD WILLIAMS.

June 1, 1901.

BLACKBIRD MIMES

The faculty of imitating sounds and songs not their own, must be more frequent in blackbirds than is generally supposed. I remember in the Spring of 1879, in the little copse on the side of the Frauenberg at Fulda, hearing several blackbirds sing a fragment of the well-known "Du bist verrückt mein kind." They all sang the same first few notes, breaking off at exactly the same quavering, hesitating sound, beginning over and over again. I tried to find out how they had acquired this addition to their usual natural repertoire, but could not, until an old lady explained to me that the blackbirds on the Frauenberg must have learnt the air from a tame bird belonging to a soldier, which had been taught by him to warble this tune. I saw this blackbird in a cage hanging over the cottage door, but I did not hear it sing. I have observed another instance of this faculty of acquisition this year in the Parc de Montsouris in Paris. We have been interested in noticing one particularly good-voiced bird singing quite differently from his fellows. It seemed sometimes as we listened in the quiet of the early dawn or late evening as if the birds were trying to invent a new song; it may be he was only imitating. Anyhow, our attention was called to the performance of this particular bird by the difference from the usual blackbird's song.

JEANNE E. SCHMAIL.

August 4, 1900.

NOTE.—Other correspondents send accounts of a starling borrowing the tune whistled by a boy and a captive raven a terrier's bark and whine. Though I have discussed mimicry elsewhere, I may repeat myself

in saying that I have heard a wild jay imitating the half-bark, half-whine of a hapless yard-dog on the chain to a nicety. My own experience of the starling is that he imitates many sounds and notes imperfectly; but I am bound to say that a starling once completely deceived me in plagiarizing a lapwing. The song-thrush I have heard rendering the loud yell of a captive parrot in a house near his perch to perfection, and this was to be expected of him, for his tribe are great mimics. It is a fair generalization, I think, to say that the finer the singer, the greater the mimic, and *vice versa*. The nightingale is certainly an exception, being preoccupied, as he well may be, with his own finished artistry. But it is true of most of the other distinguished bird melodists and particularly of the marsh-warbler and the American mocking-birds (*Mimus*). Time and again I have noticed how eagerly birds listen to the song of an individual either of their own species or another.

THE BALLET OF THE CRANE

Among "animals which play games" the *saras*, or Indian crane (*Ardea Antigone*), is, I think, entitled to a place. Some twelve or fourteen years ago, in the Shahjahanpur district of Rohilkhand, I witnessed a dance by three of these birds, in which one, a female, stood in the centre while the other two, males, described figures of eight round her, all three bowing to one another at regular intervals. The movements throughout were perfectly uniform and very graceful, and the birds were so absorbed in their dance, which lasted for several minutes, that they took no notice of me, though I was within forty or fifty yards of them. I have also seen what I can only describe as a boxing match between two of these cranes, which was a most ludicrous sight. Twelve or fifteen *saras* formed a ring, in the middle of which the two combatants fought a number of rounds, squaring up

at each other with their wings, and striking blows which could be heard several hundred yards off. There was no biting or kicking, nothing but honest boxing with the wings. Each round lasted perhaps a minute or more, and in the intervals the two combatants strolled about in the ring until time was up, when they went at it again. I sat on my horse watching the fight for at least ten minutes, at the end of which the ring broke up and the birds dispersed. How long it had been going on before my arrival on the scene I cannot say. Neither pugilist showed any signs of temper during the combat, or appeared to be at all damaged, and the whole proceedings were characterized by the most decorous formality.

H. C. I.

May 28, 1904.

NOTE.—“H. C. I.’s” letter is of great interest. I believe that his is the only example recorded of a species other than the spur-wing plover (*Vanellus cayennensis*) dancing in threes. The following is Mr. Hudson’s account of this distinguished plover’s dance. A bird has left its mate and joined another pair, who welcome it with manifest courtesy and pleasure :

“Advancing to the visitor, they place themselves behind it, and then all three, keeping step, begin a rapid march, uttering loud drumming and rhythmical notes in time with their movements, the notes of the birds behind coming in a rapid stream, while the leading bird utters loud single notes at regular intervals. The march ceases, the leader stretches out his wings, emitting loud notes, while the other two, with puffed out plumage, standing exactly abreast stoop forward until the tips of their beaks touch the ground, and, sinking their voices to a murmur, remain for some time in this singular posture. The performance is then over; the birds all resume their natural attitudes, and the visitor takes his leave.”

It reads like eighteenth century Bath! Mr. Hudson says that this strange entertainment has nothing to do

with sexual feeling ; " it is simply the bird's manner of expressing its joyous spirits."* What is profoundly interesting is that these spirits express themselves in an orderly and rhythmic form ; the dance is conventionalized, just as all art makes use of conventional machinery for self-expression. Do birds, then, appreciate a primitive artistic form ? It certainly seems so.

Cranes are fond of dancing and attitudinizing like ballet dancers. Another interesting thing about them is that their elaborated social habits have emancipated them from the " struggle for existence," so far as all natural enemies are concerned. In fact, they have no enemies except man.

GULLS AND PROTECTIVE COLOURING

I

Mr. J. Isabell, writing in the *Spectator* of January 18, questions whether the white or grey colour of seagulls is protective ; indeed, his own observations have led him to consider that it actually renders them more conspicuous. No doubt the protective value of this or any other colouring varies under different conditions ; but I think those under which Mr. Isabell's observations have been made in some way exceptional, as there can be little doubt that the conclusions of Wallace and the writer of the article on " White Animals " are supported by those of many independent observers. Probably gulls are more visible against the dark-coloured cliffs and dark blue sea of the extreme south-west coast than they are in many places. During the last fifteen years I have had many opportunities of watching sea birds from the shore and at sea in home waters, and I feel sure that as a rule the pale colouring helps to conceal them. About a mile from

* Groos (" Play of Animals ") held that the play-instinct of animals was related to the posing, dancing, and displaying of the nuptial season.

where I write there are high, almost perpendicular cliffs, and from these one can look down over miles of sea. The water near the shore is usually covered with flocks of sea birds which breed or roost in the cliff. The adult gulls, which are mainly white, are extremely difficult to see, though they can be plainly heard, and they would often escape notice altogether but for the presence among them of young birds in their dark mottled plumage. The colour of these immature birds tones exactly with the broken stone on the side of the cliff where the nests are made, but on the water it betrays them at once. The still darker cormorants, which are practically black, are always seen at once though they are usually solitary when swimming, and so offer a much smaller object to the eye than a flock of twenty or thirty gulls. A few wild ducks may also be seen under the cliffs, and these, like the cormorants, are always visible. Black-backed gulls, guillemots, razor-bills, and puffins we seldom see here, but I saw a good deal of these birds some years ago when yachting in the Irish Sea and off the west coast of Scotland, and they were always far more conspicuous than the grey gulls either on the open sea or in the air.

SOUTH COAST.

February 1, 1902.

II

With reference to "South Coast's" letter in the *Spectator* of February 1, in which the question is mooted as to whether the white and grey colours of sea gulls are the most suitable for "protective" purposes, may I be permitted to express the opinion that the enemies of sea-gulls being so few, the evolutionary process of adapting a "protective" colouring against such has not yet been called into active operation? On the other hand, a sea-gull to support life on its natural diet of fish should be inconspicuous to its prey. Whether it be the cold grey

seas of higher latitudes, or the brilliant off-shore seas of the tropics, the white under-plumage of the adult birds is undoubtedly best suited to this end. I have frequently been struck when cruising in the shoal waters on the shores of this possession by the beautiful pale green shade reflected upon the breast feathers and underwings of the white terns which abound here, the tint being an almost exact counterpart of the colour of the water from which it is thrown. No other colour but white would mirror this hue, and the tern is thereby rendered less visible to the fishes below. I am aware that this line of reasoning does not apply to the shear-waters and frigate birds, but these birds are seldom seen fishing in shallow waters. They appear to go farther afield where the sea is dark blue and deep. Sometimes they may be seen hovering in cloud-like numbers above a shoal of large fish which are disporting themselves splashing about at the surface. At such times they perpetually dash down, and apparently pick minute pieces out of the bodies of the fish. The latter seem to be totally oblivious of the presence of the birds, so in this case the question of "protective" colouring does not arise. The most conspicuous exceptions to the above theory are, I conjecture, the cormorant and the shag. I have never had the pleasure of seeing these birds fishing on the coasts of Great Britain. It would be interesting to know whether it is their habit to dart down upon their prey from the upper air, after the manner of gannets, or whether they watch their opportunities from a rock like themselves. The so-called shags in Queensland pursue the latter method when I have observed them on the inland creeks and rivers of that country.

F. R. BARTON.

July 26, 1902.

NOTE.—Shags and cormorants catch fish by diving from the surface of the sea, turning a graceful semi-circle in the air, and then plunging head first.

It is interesting to note that evidence of the survival value of protective colouring is accumulating. The Italian naturalist Cesnola, for instance, tethered green mantises first among green vegetation and then among brown. All the former survived after seventeen days, all the latter were killed by birds and ants in eleven days. This is very important, since it demonstrates that natural selection sifts with a purpose, that it eliminates indiscriminately and in virtue of the possession of certain qualities. The theory that evolution has proceeded by luck or accident is, as Samuel Butler truly held, "the most absolute denial of God conceivable."

In another sense, all animals are protectively coloured as a kind of external symbol or manifestation of their fitness to their environment. The visible harmony between animals and their homes illustrates the biological inter-relationship between organism, function, and environment.

In a third sense, protective colouring is simply Nature's good taste. An animal that sticks out of its environment (as the imported pheasant does in all months except October) or blends inharmoniously with it offends artistic canons.

In a fourth sense, protective colouring is a prudent check upon the violent exuberance of life, and without it we should be spectators of a mad riot of colour, a Futurist exhibition. Humming birds and coral fishes, for instance, which are so radiantly prismatic in colouring, have few or no natural enemies.

In a fifth sense, protective colouration is a fine example of the interplay in nature between use and beauty, an association which, when applied on a higher turn of the spiral to human life, is the central doctrine of Morris and Ruskin. Make things for use and not for profit, they said, and you will find that the product itself is a thing of beauty. Nature endorses and illustrates the teaching.

Mr. Barton's reference to the terns' white breasts is

very interesting. In the South Kensington Museum there is a model of a white-breasted bird, showing how the bird's shadow, thrown back upon the breast, makes it an inconspicuous grey. Here sexual selection and protective colouring work in harmony, for the silvery breasts of many birds, viz., the great crested grebe, play a large part in courtship. In other cases, however, the breasts of many soberly clad birds are brightly coloured. They are concealed from above, but are swelled out to the best advantage in amorous display.

A TAME ROOK

I should like to tell you about my tame rook. Whilst she was still a fledgling her parents found her too much of a handful and cast her out of the nest. I picked her up in the drive, and took her into the house, and the next day crossed to Ireland. One of my household brought her up by hand, and on my return I found the rectory in the possession of a very strong personality, who has ruled it ever since. She has been perfectly free all her life, we do not cut her wing; at night she sleeps in a cage, and often herself calls for it if tired. She wanders about the house, making the workroom her headquarters. She laid last year after we had had her four years, but was badly egg-bound and nearly died. This year I noticed she had a tendency to carry things to the mantelpiece, so I fixed a cushion to shut off a place between the mantel and overmantel; she immediately began to build inside. The nest was constructed entirely of what could be got in the house; she started with twigs out of the housemaid's box, then impounded four work scissors, my two-foot rule, three silver teaspoons, the receipt file, reels of cotton and silk, two tape measures, a strap, string, and tape. All these were wonderfully worked in, the interlacing being most clever and laborious. Having satisfied herself with the outside she

proceeded to line it, the first precious prize being a new chamois leather; this was followed by three cleaning cloths, a pair of stockings, pieces of linen, flannel, silk, a newspaper torn to shreds and taken piece by piece. Bright colour was a great attraction, always preferred to white or brown goods. Three days were occupied in building, and the first of five eggs was deposited in the nest the day after it was finished. We waited twelve days after the fifth egg, removed the cushion, and let the nest fall down; the eggs had previously been taken away. She was very sad, and began immediately to reconstruct the nest from the debris, and when she had finished laid five more eggs. There was a very marked improvement in the construction of the second nest; it was smaller, less clumsy, much smoother and softer inside. During the time she was on the nest, whenever I came into the room I had to feed her—she demanded this attention most imperiously. During my absence she fed herself.

She has a wonderful treasury on the top of a cupboard of things which she has collected, and which she loves to play with and talk to. No one must go near it, but if I go, every single item is brought to me, and when I have got all she has to give she bows and spreads her wings and tail and cries her very heart out with delight. I have to share her food. The little lady brings me first-fruits before she begins. Her power of hearing is far more acute than ours; she hears the mail cart every morning long before we do, and is always the first to detect an aeroplane. She hears me immediately I get into the garden and is on the window to greet me. As I write she is on my wrist talking to me all the time.

MENZIES LAMBRICK.

NOTE.—Nest-building is an instinctive art, and the architecture of each species is true to type. But this "most engaging" bird (the *Spectatorial* comment) drew

upon his fund of intelligence when he left his instinct cheque book behind in the wilds. Among the higher animals, intelligence is ever at the elbow of instinct, to oversee it, to help it over an unexpected stile, to correct it, to lend it a hand, and, if need be, to take its place. (See notes on "death-feigning" and "wasps.") Notice the bird's preference for bright colours and the education by experience in building the second nest. Prebendary Lambrick's charmer is like an artistic child.

STARLINGS IN NEW ZEALAND

It may interest you to hear that the starling keeps its reputation here as a "mocking bird," and like a good colonist adapts itself to altered circumstances. A few days ago I heard one imitating perfectly the cry of the weka (*Ocydromus*). As these birds are no longer found within miles of Christchurch, it was a puzzle to think where the bird had heard it, until I learnt that an acquaintance a few streets away had recently got one as a pet. I imagine only individual birds become great performers. Our starling is a fine handsome fellow, whose favourite perch is close to the gate. The last two Septembers, when the whitebait swarm up the rivers, our bird gives a very good rendering of the "Whitebet, Whitebet" of the old Italian fisherman passing along the street. The distant clamour of seagulls flying far overhead is given so realistically that I have often looked up expecting to see them. At up-country homesteads I have often heard starlings bleat like young lambs, and my son-in-law tells me he was thoroughly deceived by a starling whose soft *sotto voce* bark so exactly resembled that of a dog far away that he twice climbed to the top of a hill, under the impression that a young collie he was training was "rounding up" sheep on his own account. The dog in question had a very peculiar bark. All this mimicry

is in addition to their own individual song and clattering of "tiny castanets" which you have so graphically described.

A. G. H.

July 13, 1901.

NOTE.—See p. 106.

THE SETTING DOWN OF BIRDS' SONGS

Apropos of the interesting article on the above subject in last week's *Spectator*, I should like to remind your readers of the old French poem (I think by Charles d'Orléans) imitating the lark. As I quote from memory, and probably inaccurately, I shall be glad if you or any of your readers to whom it may be familiar will correct the misquotations, and the source, if needful :

" La gentille alouette
Avec son tire-lire-a-lire
Et tire-lire-a-lire
Tirelirant tire
Vers la voûte du ciel,
Puis son vol vers ce lieu
Vire
Et désire dire :
Adieu Dieu !"
Adieu Dieu !

F. E. V.

July 3, 1909.

NOTE.—Mr. G. A. Momber, in a letter following this resurrection of d'Orléans's perfect lyrical matching of human with avian language, quotes :

" The pretty lark, climbing the welkin clear,
Cheers with a peer ' Come here, come near, my dear,'
Then, flitting thence, seeming his fall to rue,
' Adieu,' he saith, ' adieu, dear, dear, adieu.' "

But he does not say where the song comes from, and I cannot trace it. It is in the Dekker or Heywood vein.

BIRDS AT PLAY

The instances of birds at play which you give in your review of "The Romance of Bird Life" (*Spectator*, November 7) reminds me of a story told me many years ago by a shepherd in the West of Ireland. The story seems too good and too true to nature to be an invention. This man's cottage stood near the foot of some great mountain cliffs, above which, on the flat top of the hill, was the peat bog where he cut his year's supply of fuel. It was his custom to stack the turf, when ready for removal to the lower ground, quite near the edge of the cliff. The place happened to be conveniently close to the only path by which a descent was practicable. One season the shepherd noticed that the top of his stack was curiously disturbed. He put it in order, but was surprised a few days later to observe that it was again disturbed, and some sods removed. The place is very remote, it was clear that the cause must have been something quite unusual. He determined to watch, and this was what he saw. An eagle—of whose haunting the neighbourhood at the time he was aware—descended on the stack of peat, lifted a sod with his claws, soared upwards to a great height, and then, dropping the sod, swooped down upon it with prodigious speed, and caught it again before it reached the ground. When, after several such flights the eagle missed his catch, and the sod fell down into the valley, the bird returned to the stack, found another sod, and continued his game. Once, on the edge of a very similar range of cliffs, I had the rare delight of watching a peregrine teaching her young to fly. A projecting rock on the very brink gave me a point of vantage, and I remember well the rage and fear of the mother, and her cries of warning when I put my head over the top of the rock, and looked straight into the splendid eyes of the young falcon as it clung to the face of the cliff. If this was not

an instance of birds at play, it was at least a romance of bird life.

CHARLES F. OSSORY.

December 5, 1908.

NOTE.—Of course, the eagle's sport was an "instance of birds at play," and a very good one too, since it illustrates the great importance of play as a noviciate to the real business of life. The eagle which learned to be an adept in catching the turf-clod would be an adept in catching its prey. The make-believe of animals is a training by amateur theatricals for the serious drama of adult life. Play in animals has been well called "the young form of work" (Groos) and (apart from the joyousness of heart which pulls the trigger) an opportunity to indulge progressive experiment without the more severe criticism of later life. "The animals," says Professor Thomson, "who played best when young, worked best, lived best, perhaps loved best when they grew up, and thus through the long ages the play instinct has been fostered. . . . Play is thus a rehearsal without responsibilities, a preliminary canter before the real race, a joyous apprenticeship to the business of life." And it is the same with ourselves. Animal play, again, gives us one of the many glimpses of the gladness and intensity of life in nature. Play holds out one hand to youth and the other to maturity, for animals, as Groos points out, do not play because they are young, so much as are young in order to play. They are young in order to be adult, sportive to be serious. The playground is set symbolically just outside the school-house. The young animals bound as to the tabor's sound, that they may learn the daily round.

AS VAIN AS A PEACOCK

I

We have read your correspondent's letter about his peacock, in last week's *Spectator*, with much interest. Our favourite and much petted peacock can be kept happy any length of time looking at his reflection in the window pane or in a looking-glass. He comes in daily to tea, making no mistake about the hour, and spends much time *en route* gazing at himself as he appears in the glass of the French windows by which he enters the room. One side of our garden is bounded by a public footpath, which we reach by a stile. On Sunday afternoon this path is greatly frequented, and our bird takes up his position on the top of the stile in good time on that afternoon, but seldom on other days (*he hears* voices, no doubt), to hear himself admired by the passers by. He hangs his tail over the fence to the best advantage : he knows his name, and will stand still a long time, or show off his tail for warm words of admiration. He eats from our hands, and if we forget him for a minute he will snatch the cake or bread before it can reach our own mouths. If I am sewing and do not speak to him when he comes into the room, he will gently put his head quite close, almost touching my ring or needle, for he likes bright things, till I have to give up working and talk to him, as with a small child whom one is afraid of pricking. His mood varies towards our two hens, sometimes being patronizingly affectionate, sometimes rather tyrannical; in the nesting season he roosts by himself in a separate tree, and does not bestow the slightest attention on them when they sit, or when their chicks are hatched out. On the other hand they eat or wander about unconcerned when he spreads his tail and demands admiration in the spring. Often they will not give him one glance in half an hour. They get behind him so as not to see him, and he is kept perpetually

turning and twisting. I may add that another younger peacock attends the kitchen breakfast and tea with great punctuality, occupying a position on the table—at least so I am told. If I call my children to come in from the garden to bed, my own particular peacock will help at once by uttering his cry, which is more far-reaching than anything I can do. Earlier in the day he is less talkative.

W. B.

July 18, 1908.

II

I venture to send you some curious particulars about the behaviour of a young peacock that is kept here. I should be glad to learn whether our experience can be confirmed or illustrated by any of your readers. The bird began by sedulously frequenting the stable yard, and whenever the carriage was brought out of the coach-house he would take his stand by it, and gaze at his reflection in the panels. He then took to accompanying the carriage up to the house, and, standing beside it at the front door, engaged in self-contemplation. He now runs behind the carriage, when it starts from the house, down to a certain point of the drive, apparently in the hope that it may stop, and allow him to continue his favourite occupation; but he seems to conclude at a certain place that the case is hopeless, though if the carriage halts further down the drive he will rejoin it and resume his observations. It occurred to us to wonder what he would do if a looking-glass were placed on the lawn. This was accordingly done, and he at once found it out. Nothing will induce him to quit it. He will stand by it for hours together. At first he occasionally looked inquisitively behind the glass at intervals to see if a bird was actually present, but he has given this up now. He stands in front of it, entirely absorbed, often motionless for a long time, occasionally moving his head gently up and down, and

sometimes softly touching the glass with his bill, appearing slightly bewildered by the contact. If food is thrown to him he takes no notice, unless it is close to the glass, when he will hurriedly gobble it up and return to his more congenial employment in haste, as though vexed at being interrupted. If the glass is taken into the drawing-room, which is on the ground floor looking into the garden, he will enter the room by door or window, find the glass, and continue his favourite pursuit; and he spends the greater part of the day at the door that leads from the drawing-room into the garden, in the hope that some one may bring out his glass for him. Meanwhile the peahen is sitting on a nest of eggs in a hedge close at hand. He never goes near her, his only idea being to find opportunities for contemplating his own perfections. I suppose that the proverb "As vain as a peacock" refers to the bird's habit of spreading his tail and strutting about; but it is curious to find that this instinctive vanity lies deeper still, and is not confined to the desire to arouse the admiration of his mate, as is generally taken for granted, but is based upon a genuine complacency and an almost morbid consciousness of his personal attractions.

ARTHUR C. BENSON.

July 18 1908.

NOTE.—He could admire worse, and at least his vanity was the measure of his good taste. Had Narcissus had the sense to identify the lovely image with himself, he might have lived to enjoy his own charms for as long as I hope Mr. Benson's illustrious bird was enraptured with his. "The pride of the peacock is the glory of God."

BIRDS AND THE ART OF FLIGHT

In confirmation of your correspondent "E. T." in last week's *Spectator*, I would point out that many birds other than the skylark and rook will fly for pleasure and amusement. The aerial evolutions of flocks of starlings,

a marvel of precision in collective movement, hundreds of birds, close together, turning and wheeling with one impulse, and never a collision; the daily excursions of domestic pigeons and of teal and wild duck in wide circles round and round their nesting haunts; the beautiful upward gyrations of storks, vultures, peregrines, and most of the raptores—are instances. Seagulls and all the swallow tribe spend most of the day on the wing, far beyond the efforts necessary to win their living, and apparently for the joy of exercise. Wydah birds will hover in one spot for a long time, for no other discernible purpose than to show off their plumage. The classical definition of pleasure being the unhindered exercise of our natural faculties is upheld by most animals, domestic as well as wild. By the way, skylarks, as is well known, are not the only birds that sing on the wing; woodlarks and pipits usually do, and other kinds occasionally.

G. A. MOMBER.

September 1, 1906.

NOTE.—Wheatear, whinchat, stonechat, whitethroat, goldcrest, pied wagtail, swallow, martin, goldfinch, linnet, greenfinch, green woodpecker, cuckoo, tawny owl—all sing often or sometimes on the wing. Mr. Momber does not mention the corporate air-designs of dunlin, who not only conduct the most intricate flight-manceuvres as one bird, but swing their bodies over from side to side simultaneously when they turn, exposing a uniform dark or white. I would say not that many, but that all birds which can fly enjoy the wings they wave, so to speak.

THE WAGTAIL

The pied or water wagtail is certainly “dish-washer” not ditch-watcher (*Spectator*, February 7). It haunts the neighbourhood of clear, shallow streams. Being as kindly regarded as the robin and the wren, it is, like them,

companionable and fearless. Where the hamlet lies along "the never-failing brook," fresh from the heart of the downs above, wells are unnecessary, and village crockery is cleansed in the crystal stream at the door. The sight, constantly associated, of the little cottage drudge stepping and stooping, dish in hand, beside the purling brook, and of the social wagtail tripping and dipping over the pebbles close by her, led child Hodge in Wessex, generations ago, to call the wagtail "Little Polly Wash dish."

ARTHUR HARRINGTON.

February 14, 1903.

NOTE.—In Dorset he is still known as "Polly Wash Dish." John Clare wrote a tender child poem on the wagtail, who does "everything by halves and nothing long," when he was in the asylum :

" Little trotty wagtail, he waddled in the mud,
And left his little footmarks, trample where he would,
He waddled in the water-pudge, and waggle went his tail,
And chirrup up his wings to dry upon the garden rail.

" Little trotty wagtail, you nimble all about,
And in the dimpling water-pudge you waddle in and out;
Your home is nigh at hand, and in the warm pig-stye,
So, little Master Wagtail, I'll bid you a good-bye."

KNOWLEDGE OF AND VISION INTO NATURE

In your article "Nature Study and Modern Verse" in last week's issue, you accuse Wordsworth of being "occasionally quaintly mistaken on matters of common knowledge." Your instance is unfortunate, for it is the fact that wrens sleep during the winter in the nest they were brought up in. I know a verandah in Surrey where as many as eight or nine might be seen creeping in at dusk to the old nest. I extremely doubt whether any mistakes of detail can be laid to Wordsworth's charge. Such phrases as Tennyson's

" With that he turn'd and look'd as keenly at her
As careful robins eye the delver's toil "

are not in Wordsworth's manner. But I believe every word of detail he does give is absolutely accurate. See his description of a green linnet and its song, of a blue-tit, of the staring eyes of the celandine after it is too old to shut its flowers when the sun goes in. The intense truth of detail, the power to bring the picture before the reader's eyes in few words, and the large imaginative insight make his guide book to the Lakes, unlike most others, as interesting as a novel.

H. E. LITCHFIELD.

March 24, 1906.

NOTE.—Another correspondent (Rose Turle) writes to the same effect. Mr. Litchfield's apology, like Wordsworth's knowledge of Nature, is true to the spirit rather than the letter. For Wordsworth is by no means always a sound ornithologist. Did he not give the stock-dove a song, that yokel bird with his Yorkshire accent—coo-oo, coo-oo? He says of the skylark: "thy nest which thou canst drop into at will." The skylark would be affronted at so unjust a reflection upon his wiliness in concealing the whereabouts of his nest. And did not the nightingale also "chaunt . . . welcome notes . . . among Arabian sands"? No, what Wordsworth did was to declare in vision what a hundred years later science has revealed by laborious investigation. Wordsworth was a prophet of modern scientific truth; he has shown posterity that the truth of poetry and the truth of science are the same truths; though reached by different paths. Shall we not be content with so glorious an achievement? As an observer he is not to be compared with his contemporary, John Clare, the greatest poet-observer who ever lived.

V
BIRD SOCIOLOGY

THE MILK OF AVIAN KINDNESS

I

NOTICING an extremely interesting letter in the *Spectator* of January 28, I would beg to give you an account of bird-kindness witnessed by a doctor, another minister, and myself here in Durban. During an exceptionally heavy tropical rain three weeks ago, two ducks of the common half-bred native and Bombay variety got washed in the flood down the Umgeni river, which flows through the town gardens. The ducks both got entangled in the barbed wire and wire netting which crosses from bank to bank. One managed by much flapping of wings to extricate itself; the other seemed, however, to be on the point of drowning, when a large cock ostrich stalked out of the bush and waded into the river, lifted it bodily out of the water, and carried it ashore by one wing. The duck was not badly hurt, but its rescuer was severely torn on its thigh muscles by the barbed wire. I may mention that this is all the more remarkable as the ostrich, with rare exceptions, buries its head in the sand during a storm, and will starve to death sooner than move. The same ostrich is a well known character in Durban, the Kaffir gardener being its especial *bête noir*, many being the tales told of single combat between the two, bird *versus* "boy."

R. G. PEARSE.

April 15, 1905.

NOTE.—See p. 79.

II

In 1894-95, at the Lal Bagh aviary, Bangalore, there was a winter or albino crow, separated only by stout bars from a sick vulture in the next compartment, and otherwise quite solitary. The native keeper informed us that this crow regularly fed the vulture with choice morsels from his own rations of offal; and, although we did not actually witness this deed of altruism, we saw the crow standing as near the vulture as the bars permitted, with as good a "bedside manner" and air of attentive solicitude as could possibly be desired in doctor or nurse; the morsels lying untasted at the vulture's feet and within easy reach of the crow's beak, to the latter's evident concern. Later on this vulture died, and the keeper told us that the crow had since taken to feeding its common black brethren through the exterior bars.

A. U.

February 11, 1905.

NOTE.—See p. 125.

AUTUMN MIGRANTS

I was much interested in your article on "Autumn Migrants" in the issue of September 23. May I, however, offer an alternative theory to Professor Thomson's? It seems to me a rather airy hypothesis which assumes that the "organic reminiscence of the original headquarters" returned conveniently after the Ice Age was over. Such a reminiscence, if it existed, would have cropped up continually during the intermediate generations, and the individuals who gave way to the impulse would have been promptly eliminated by "natural selection," their old breeding place being still ice-bound. My own theory occurred to me through watching martins feed their young in June from 3 a.m. to 9 p.m., *i.e.*, for

eighteen hours in the day. Now if they feed their young for eighteen hours, the latter presumably require it; but in a southern country, where the day is only twelve hours long, they would perforce have to fast for twelve hours. I take it that migrant birds originally lived in one place throughout the year, but those who went a little further north to breed reared stronger nestlings owing to the longer summer day, and so had a slight advantage in the struggle for existence. Of these the individuals who moved south in winter when insect food became scarce gained a further advantage, so that gradually the non-migrants at either end were eliminated. Moreover, the further the migration was pushed within certain limits the greater was the advantage. This theory has at least the merit of assuming a gradual and uniform development of the migratory instinct in place of the sudden revulsion postulated by Professor Thomson. Furthermore, I do not see how the "organic reminiscence," which took the professor's birds back to their "original headquarters before the Ice Age," came to act in the reverse direction with the approach of autumn. As regards the height at which the migrants fly, is it not probable that, like balloonists, they seek the level at which there is a strong current blowing in the desired direction? This would also account for the rapidity of the journey.

E. C. STOWELL.

October 7, 1911.

NOTE.—I think that Mr. Stowell's very interesting theory tends to look upon migration as an acquired character, rather than a constitutional impulse (though aptitude supplements the germinal capacity), to over-emphasize the food question and to ignore not only the high degree of punctuality in migratory movements but the something of sublimity in them: "The stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the

time of their coming." There seems, that is to say, to be a kind of planetary precision in these mighty movements, and there is a consequent danger of over-simplifying the problem. It would be presumptuous so much as to attempt to solve this deep mystery in a note, but our knowledge that the young birds more frequently lead the autumn movement in advance of the adults (as they are the last to arrive in spring), does not suggest that migration originated in a mere choice of nesting sites. Food and reproduction undoubtedly play their parts, but these are surely only part constituents of a whole phenomenon whose grandeur seems to baffle our searchings. Professor Thomson's theory is discussed with his usual power, breadth of mind, temperate fairness, and beauty of expression, both in "The Wonder of Life" and the "Biology of the Seasons," and, quite apart from its biological value, it has the poetic advantage of correlating this rush of "infinite wings," this rhythmic swing between exile and home, repose and labour, expenditure and repair, "breeding and nesting," and "feeding and resting," with a vast original disturbance and change in inanimate nature. His theory does not impoverish our sense of awe at this miracle of travel, and our deeper senses are no bad practical guides. Lastly, Mr. Stowell objects that Professor Thomson's theory postulates a "sudden revulsion." But "mutations" (which Samuel Butler rightly called "happy thoughts" and are really what we should call inspirations born in the germ-cells) are well established in modern biology. Certainly they modify the Darwinian idea that variations are "numerous, successive, and slight," but the evidence for sudden leaps and bounds in natural progress is by no means scanty (see De Vries, Bateson, etc.). Man himself has been called a mutation in his origin—viz., a "prepotent anthropoid genius."

BIRDS AND TABLE MANNERS

Within a few yards of my study window a fine rowan or mountain ash has borne a very abundant crop of berries this year. This has afforded me a rare opportunity for noticing the variety of birds that feast on this luscious fruit. On this subject opinions seem to differ considerably, some observers mentioning one or two species, and few going beyond three or four. In the course of a fortnight during the month of August my tree was entirely stripped of its fruit by birds which came in the following order. First of all the mistle-thrushes, which are in the habit after the nesting season of wandering about restlessly all over the country. During their hurried visits they ate voraciously, and after a few days gave way to the more modest and well-behaved song-thrush, to blackbirds old and young, and to the few starlings which have remained at home after their congeners have joined the large flocks now roaming the neighbouring fields. After these ravenous feeders came the smaller birds, among whom I noted as particularly pleased with their fare bull-finches, blackcaps, chaffinches, and a solitary pair of whitethroats. Now and then as many as five varieties of birds might be seen feasting together at the same time. From first to last there was no quarrelling, no attempt at domination or monopoly. All behaved as decorously toward one another as the guests at a city banquet.

W. E. WINKS.

NOTE.—They may have behaved decorously towards one another, but they conducted themselves with a singular lack of consideration towards those museum worthies whose theories directed them to compete like mad round the platter of subsistence. Courtesy? Rank heresy is the word. I fear there are other violations. Birds migrate when they ought to be solving the economic

problem of feeding many mouths with little food by behaving like competing business men. Migrate do I say? A euphuism for bolting. They do worse, for they actually combine rather than compete when food is scarce. The phenomenon of winter flocks composed of a variety of species and all co-operating in the hunt for food is most unfriendly evidence for the specialists and a most unfratricidal act of the members of the flock towards one another. And there was that horrid disillusionment about the black and the brown rat. The latter *ought* to have exterminated the former; he owed it to the competition theorists. It was almost their only solid ewe lamb, for alas, the famous warfare between kindred has turned out to be one of those phantom wars one reads of in the Norse Edda.

SOCIAL NESTING

Among the many nests built annually by house-martins under the eaves of our house I frequently notice double ones—like the one mentioned by your correspondent last week—and this year I see there is a treble one in which three flourishing broods are being brought up.

VERONICA S. BATCHELOR.

July 15, 1911.

NOTE.—Miss Clemence Acland sends an account of a double nest of martins and a fourfold one of rooks, with a single outer wall, to the same issue of the *Spectator*. These experiments remind one of the more highly developed social adjustments of the weaver birds of South Africa (see Houssay, "Industries of Animals"), who construct, each pair, their private cottage under the shelter of the umbrella thatch built by the little architects in a body. Evidence of this kind is of deep interest to naturalists, because the individualism of the nesting season with its appropriate physiological stimuli is nearly

always assumed to run counter to the social instinct prevailing at other times of the year. I have never seen double or treble nests, but I once saw a cottage whose eaves were covered by martins' nests from one end to the other, a continuous row of nests all touching or within less than an inch of one another.

VI

BIRDS UNCOMMON AND MEMORABLE

A PARROT'S WHO'S WHO

THE story of the parrot on p. 711 of the *Spectator* of November 7 reminds me of an incident told me by the late Canon Courtney, of Bovey Tracey, as having occurred in his presence when he was once staying at a country house when there was a large party of notables. One evening, as the gentlemen of the party were filing into the dining-room for family prayers (not then out of fashion), the parrot, whose cage was near the door, eyed each entrant as if endeavouring to recognize them. As the most diminutive of the gentlemen passed in, the parrot, evidently puzzled, said most distinctly : " And who the devil are you ? " It was Lord John Russell.

A. T. FRYER.

November 21, 1908.

A PARROT'S LOGIC

In the *Spectator* of January 12, I made a mention of a handsome green parrot for which my great-grandmother, Lady Aldborough, is said to have paid £40, and which came into my possession when I was eight years old. Jacko had been left to my grandmother, but he was, to use my father's phrase, such " a savage brute " with most people, and his love at first sight for me was so marked, that he was soon made over to me. If anyone petted me he was jealous; if anyone pretended to beat me he was furious. Max Müller contended that the line between human reason and animal intelligence is not so hard-and-

fast as is sometimes supposed ; a bird before cracking a nut will sometimes judge by its weight whether it has a kernel or not ; is not this an act of comparison ? Jacko performed such an act after a fashion of his own. He had a way of taking my finger in his claw and playfully biting it, but he first experimented on his own leg. As, however, the untutored Baconian did not allow for the fact that his leg was protected with feathers while my finger was not, his friendly peck was sometimes harder than I liked. Was not his hasty generalization a rudimentary form of the *inductio per enumerationem simplicem* ? In early boyhood I was sent (*in forma invalidi*) as a day-scholar to a boarding establishment at Brighton. Jacko used to be placed in the bow window of our lodging ; and from his joyful uproar my friends could at once tell when he espied me on my way home. When I went to Harrow the sense of bereavement, seconded by old age, soon did its work ; and before my first term was over the loyal bird had sickened and died. Hamerton, after hinting at the possibility that all human reverence may gradually disappear from the earth, comforted himself with the reflection that, even in that case, the torch of reverence will still be kept alight ; for the reverence of dogs for their masters is indestructible. From one half-reasoning, wholly loving animal to another the step is short. And thus when I think of my dear Jacko I am reminded of the graceful epitaph which that friend of my youth, Sir Francis Doyle, wrote on a favourite dog :

" Not hopeless round this calm sepulchral spot
A wreath, presaging life, we twine ;
If God be love, what sleeps below was not
Without a spark divine."

LIONEL A. TOLLEMACHE.

April 27, 1901.

NOTE.—The adoration of one's dog is not a little embarrassing and ironical. It puts one to the blush. Truly

a divinity doth hedge it—but hardly ourselves. Yet we cling to our godship as to a darling vice. It is agreeable to be seen as a tree walking, in spite of the discomfort of feeling as morally big as a sandhopper, when we reflect upon our theistic qualities. No, we would not disillusion our dogs for worlds; but at least, in reparation for the deceit, we are urged to practise “dog loyalties to faith and friend.”

JUNE NOTES FOR ENGLISH BIRD-LOVERS

Whilst the feather merchants are exterminating the most beautiful birds in the tropics, and each rare bird that visits our own shores is instantly pursued and shot instead of being welcomed and encouraged, it is pleasant to find that in some parts of the country lovers of birds may still hear and see many birds which are uncommon, and to know that even among gamekeepers there are individuals who refuse to kill every rare bird they notice.

The first thing needed for bird observation is to have eyes to see, and some knowledge of the ways and the notes of each bird. With this one can be pretty sure to discover every nest in one's own garden, and a good many outside it. Nothing strikes me more than, first, the certainty with which a good naturalist, when on a walk in the country, will discover one nest after another; and secondly, the number of nests of rather rare birds that are to be found each year in the naturalist's garden. My naturalist friend here, with quite a small garden on a narrow strip between a river and a much-frequented high-road, can show, besides those of the ordinary garden birds, three nests of spotted flycatchers, a grey wagtail, a garden-warbler, a whitethroat, and a pied flycatcher—this beautiful little bird is the least timid of all, and both cock and hen keep on feeding their young quite undisturbed by our presence at only two or three yards' distance—and in the stream the dipper or water ouzel regularly nests. In our own garden we have the willow and the wood

warbler, and the golden-crested wren, with various tits; and while in the morning we see two great buzzards wheeling overhead and curlews flying about below them, we have each evening a woodcock flying across the garden uttering his harsh note, and just now, in the next valley, is heard the croak of four ravens as they fly backwards and forwards from crag to crag.

A drive yesterday showed us two redstarts with their bright plumage, a wheatear, another buzzard, and a pair of dippers. But the best of our bird-hunting expeditions resulted in our having a good near view of the male and female of the tufted duck. Twice over they came out of the rushes to an open space on a little tarn and played together and dived, finally disappearing in the reeds. We went on to visit a lake on which a bird-loving keeper told us that the great crested grebe, which we had come to look for, had last year brought off four young ones, and had nested again this year, but with what result he did not yet know. He had seen the nest. It was on the water in the reeds, made of reeds with a little water-weed, with which the bird carefully covered her eggs before leaving the nest. The grebes are not easily seen, as they keep so constantly in the reeds; but sailing in the open was the great black-backed gull who has for three or four years nested on a rock in a small mountain tarn. The keeper had noticed a pair of redshanks four years ago who nested near the lake, and they had increased in number each year, and were now fairly common. He said it had been suggested to him to shoot them, but he would not think of it. "Why should I shoot the poor little things?" He had also found this year and protected four merlins' nests and two of the long-eared owl, one of them on the ground, which, though unusual, is spoken of in last month's number of *British Birds* as not unknown. Of sheld-duck he had found several nests; they were always within a few feet of the head of some mountain rill, sometimes under a heather-bush or a rock, sometimes in an old

rabbit-hole. One pair of redshanks had a nest close to us in a hayfield at the side of the lake, but the grass was too long to allow us to see them. The sandpipers were not so shy, and kept flying along the water-edge or running on the stones. One perched on the gunwale of a boat and allowed us to observe him closely for a long time. He was still there when we left.

I have purposely avoided giving any name of locality or county; but I submit that for an ordinary bird-lover who pretends to no special knowledge to have seen all these birds, some of them quite rare, and all a little out of the common, in two or three days, is encouraging, and should inspire others to use their eyes and learn something of bird notes and habits, which will greatly increase the pleasure of a holiday in the country.

W. F. RAWNSLEY.

July 2, 1910.

NOTE. — No man deserved it all more than Canon Rawnsley. Great crested grebes, tufted duck, and pochards are winter visitors to my part of London. The tufted duck lay aside their wildness in intelligent knowledge of their security. Before they depart, however, in the early spring, they resume their shyness and take instant wing at human approach.

At Brean Down in Somerset, where I have seen the sheld-duck in hundreds, the birds build exclusively in rabbit-holes. A local name, in consequence, is "burrow-duck." Delightful is what the novelists call "the exquisite old-world courtesy" displayed by the drake lover to his mate. There is a deference, a solicitude, a gentle and polished devotion in his bowings and dippings and marchings, which we, in our anxiety lest the brute creation should be false to its name, prefer to call "antics." Mr. Hudson gives a fine description of the birds' nesting habits in "Birds and Man."

A WHITE WAGTAIL

For several days past we have seen here, quite close to the house, a perfectly white wagtail, with a yellow bill. It comes with an ordinary pied wagtail. It has no black or grey anywhere on it.

E. T.

June 1, 1912.

NOTE.—This bird would, of course, be an albino variety of the pied wagtail. The white wagtail (*Motacilla alba*), the continental form of our pied, and a frequent victim of the collecting pedant, only differs from the pied by a greater infusion of white and grey into the plumage. Mr. T. A. Coward thinks that the pied wagtail is only an insular variety of the continental form—the “white wagtail.”

THE REDWING IN ENGLAND

While walking a day or two since on the banks of the Wey in Surrey, I was surprised to hear a song which I did not know. On searching for the songster, I saw in the tree from which the song was proceeding a redwing. The buff line over its eye, and the red on its flank, were quite distinctly visible. I did not actually see the bird singing, but no other bird was to be seen in the tree. The song was a sweet, low song, something remotely like a robin's when on a damp autumnal day a robin sings, as it were, to himself. This was a fine, sunny afternoon, moist and warm. A thrush was singing in a neighbouring tree, and several robins within hearing. Is it not unusual for a redwing—as I believe it was—to be heard in England in December?

W. M. CROOK.

January 2, 1909.

NOTE.—Mr. Crook, a close observer and true lover of birds, deserved his most exceptional fortune. The red-

wing is so akin to the song-thrush in emotional susceptibility (allied in both species to a delicacy of constitution) that it might well be a winter songster too. The song has been described as "a musical babble very gently warbled," but the bird rarely sings except just before migration, and then, it is said, less charmingly than in Norway. That is true of many species, which take a little time to become note-perfect. Song is not an instinctive faculty.

A HYBRID?

Here is another instance of a pied blackbird—or two! Three years ago a blackbird frequented a small plantation near this house. This bird had three white feathers in its wings—"two and one," as heraldry would put it. I often saw it quite close; it had a particularly flute-like note; a cock bird. The following year while walking in a lane about a quarter of a mile from the plantation I came upon another blackbird which also had some white feathers and a narrow white rim round the neck. In 1919 I was riding down the same lane and at almost the same spot a blackbird flew across the road just in front of my horse. I did not notice any white in its wings, but its head and neck were quite white except just under the beak. It lit on a railing about fifteen yards away, so I had a capital view of it. It was very handsome, with a gorgeous orange bill. I frequently saw it after that, but it has now disappeared. I am not enough of an ornithologist to know if the three birds could be one bird. Or perhaps the second and third were lineal descendants of the first "pied piper." I may add that recently in the same plantation I saw a white weasel, or small stoat. Except for a patch of russet on the head and ears, it was pure white with a beautiful black tip to its tail, like an ermine: exceedingly pretty and showed up well against the dark moss of the pathway as it darted across—probably on the

trail of some unfortunate rabbit—only about ten yards in front of me.

MILDRED A. BOYNTON.

NOTE.—I have only once seen a pied blackbird—near Bridport in Dorset. At Maiden Newton, a few miles away, I saw a pied rook. These varieties probably occur more often in the “katabolic,” go-ahead males than in the conservative, “anabolic” females, just as true variations do. The weasel was no doubt an albino variety, as it is only in its more northerly habitat that it changes colour with the seasons. Going white, that is to say, is a constitutional tendency to albinism perfected by its usefulness to the species. A white weasel would gain nothing by being a turncoat in our mild winter climate. The white winter coat is of advantage to the species from the point of view of protective resemblance rather than warmth, though white hairs and feathers retain the heat in warm-blooded animals better than a dress of any other colour.

THE MIGRATION OF WOODCOCKS

Allow me to take exception to the following passage in the *Spectator* of January 30 (p. 179): “When the woodcocks cross the North Sea . . . the first flights move on across England, and often do not stop permanently until they reach the western shore of Ireland and are brought up by the Atlantic.” As I have shown in the last volume of the “Fur and Feather Series,” there is strong reason—I might say proof—that our first flights of woodcocks arrive from the North on the coast of Donegal, and passing down the western side of Ireland, reach Western Kerry and Western Cork before they spread inland. Mr. R. M. Barrington, in his work on “Bird Migration,” as observed at Irish light stations, has adduced copious statistics which corroborate this opinion, and it is borne out by the observations of many, the West Coast of

Ireland, and especially its northern portion, being first visited by the woodcocks which arrive in autumn, apparently from the direction of Western Scotland. That country, and not England, lies between Norway and Ireland. I should like to refer to the great spread and increase of the woodcock as a breeding bird in Ireland, where it was not known to nest previous to 1833.

R. J. USSHER.

February 6, 1904.

NOTE.—Both parties appear to be right. According to Newton :

“ They arrive on the east coast at night and at that season it is a brutal practice for men to go out in the morning and kill the helpless and almost starving wanderers. . . . Their future destination seems to be greatly influenced by the state of the weather.”

If cold stops their food supply, they press into the southwest, “ *letting alone Ireland* into which the immigrant stream is pretty constant.” The Irish and English streams, that is to say, are separate. Judging from ringing the birds, some of the woodcocks which live with us do not migrate at all, even from county to county.

THE GREAT BUSTARD IN ENGLAND

With reference to the article on “ The Bustard in Germany ” in the *Spectator* of August 8, it may be of interest to your readers to know that during the hard frost at Christmas 1889-90, several of these birds found their way to England. One passed within thirty yards of me on the sands near Llanelly when I was following up whimbrel with a friend. The great bird came up from behind, and my companion fortunately missed it, having no idea what it was. I held my hand, having a shrewd idea that it was a bustard, but (of course) it was

shot in the neighbourhood a few days later. Others were killed in Yorkshire and on Salisbury Plain, as recorded in *The Field* at the time. Our rare birds stand a very poor chance, notwithstanding efforts at "protection" with which even the *Spectator* will agree.

J. W. MEARES.

NOTE.—Why *even* the *Spectator*? Two of the best accounts of this splendid bird occur in Stevenson's "Birds of Norfolk," and Mr. W. H. Hudson's epitaphial "Lost British Birds." Mr. G. H. Gurney's "Early Annals of Ornithology" (1921) gives a full account of its historical status. This is very ancient, for there are cave drawings of the bird in the Neolithic cave of Tajo Segura (Cadiz Province). It was once fairly common on most of the moors and downlands of England and Scotland, and was wiped out in the same relentless, brutal, wanton, wholesale manner in which the bison were exterminated in North America, the grebes in Oregon, and the spoonbills, egrets, flamingoes, etc., in Florida. The last native bird was shot in 1838. A certain Turner of Wrotham earned the honourable name of "otidicide" in 1812 for his bustard bags. In this rakehelly fashion do we dissipate our riches.

A BLUE-TAILED BEE-EATER IN DORSET

It is so seldom that one hears of a rare bird being taken in our island and allowed to go free, that your readers may be glad to hear evidence of a better spirit of love for things beautiful that have life which is slowly making itself felt, as against the old unthoughtful habit of killing and stuffing every rare comer that hand or gun or trap could lay hold of. Mrs. Butt, of "The Salterns," Parkstone, on the coast between Bournemouth and Poole, was going upstairs to her nursery one morning last Sep-

tember, and caught a blue-tailed bee-eater (*Philippinus*). The beautiful little foreigner had been attracted by a large bee's nest in the roof above the nursery. Mrs. Butt kept it in captivity for half an hour in order that by consulting her various books of birds she might identify it. Then she gave it food and water, and believing that, as her grounds were densely wooded and far from the road, the little creature might escape the collector's gun, she *let it fly*. It is, I think, the second recorded instance in the country of the visit of this rare bird to our shore. A former example was caught a hundred years ago in the same neighbourhood.

F. R. CAVE.

December 27, 1902.

NOTE.—I agree with another correspondent that this bird (*Merops philippinus*) is much more likely to have been the common bee-eater (*M. apiaster*), thirty and more of which have paid the penalty of seeking sanctuary on our shores. The other record of *M. philippinus* is rather a doubtful one (Northumberland, 1862), for it is a tropical species. Still, Mrs. Butt may have been right. She deserved a medal in any case.

A RARE BIRD

I

As so many of your readers are bird-lovers, I feel I must write about a very rare bird which I have seen. My son—aged twelve—and I were walking in Christ Church meadow in the end of June. We are both fond of watching birds and of reading about them. Just under the “Dead Man's Wall” runs a path which all who know Oxford will remember. At the end of this walk are some big trees, and in the first of these we saw a slender bird with a brownish back, grey on each side of

its head, an orange-red throat, and a large white patch below the throat; also a grey sort of frill round the red throat, merging into the white below. At the first sight the bird looked like a robin. Then we saw the slender build, the grey on the head, the large white patch, and my boy said, in a low whisper: "It's a red-throated flycatcher." The bird then flew across the path to another tree; it was within ten feet of us, and we could see it well. After that it flew away. We looked at the picture in Thorburn's "British Birds" on our return home, and the red-throated flycatcher was exactly like our bird. I am very anxious to know what your readers think. There have only been eighteen specimens seen in England, so I am prepared for some doubts. But two people saw the bird very close, and had about one and a half minutes to watch it. The difference in shape between our dear, dumpy robin and this elegant creature was very marked. And the orange-red colour only covered the throat—the bird was white on the breast.

H. M. GIBBON.

July 12, 1919.

II

In your issue of July 12 a letter headed "A Rare Bird" on p. 48 attracted my attention. This morning while hidden amongst currant bushes gathering the fruit my ear caught an unusual bird-cry, and glancing up I saw about eight feet distant from me a bird exactly tallying with the description your correspondent gives, save for this variant, that I should describe the breast-colouring more as a pink tint shading into a white gorge, recalling the V-shaped opening of a lady's evening dress, then merging into a delicate pink-red which deepened towards the shoulders. The frill I did not perceive, but the head was a darker grey; the shape of the bird that of an elegant, thinnish young thrush; the beak rather pointed; the legs longer than a robin's and more slender. Being hidden by

the bushes, I had a good long study of the little fellow without his knowledge. Is this another red-throated flycatcher?

A. BULWER.

July 19, 1919

THE RED-BREASTED FLYCATCHER

In your issue of the 27th ult. there appeared a letter giving an account of the supposed nidification of *Muscicapa parva* (red-breasted flycatcher) in South Wales. The breeding area of this bird lies in the districts to the north of Mongolia, most nests being discovered upon the Yablonoi Mountains in Southern Siberia. No nests of this bird have ever been obtained in the British Isles; yet, although there is no reason why this bird should not visit these islands as an abnormal migrant, that it should breed here is an impossibility. I presume, too, as no remark was made to the contrary, that the nest was found in May—a fact which doubles the impossibility. As far as the description of the eggs goes, it may be said to tally with the correct description, yet a noteworthy fact was omitted in that an unmistakable inferiority in size is evident. *Muscicapa parva* really is not, as its popular name implies, red-breasted; the "red" terminates at the base of the prepectoral region. The "breast" is pinkish mottled with regular lines of reddish-brown, and cannot, therefore, be said to be "distinctly red." The genus and species of the unknown bird cannot be determined without examination of the bird itself and the eggs, in addition to much more definite data.

GILBERT E. ADAMSON.

September 24, 1910.

NOTE.—Mr. Adamson's letter is a characteristic example of cocksure academic dogmatism. Nor is it even correct, for the "breast" is not pinkish mottled with brown, but buffish white. Mrs. Gibben's and Mr.

Bulwer's descriptions are faithful and precise, and Mr. Benjamin Rogers (August 20, 1910) and others have contributed accounts of the bird to the *Spectator*. There are at least ten other authentic examples of the bird occurring in England alone. Though nesting from Denmark to Siberia and Northern Persia, its not uncommon visits to England, both in the spring and autumn migrations, make it fully possible that the bird has been so gracious as to nest with us, and Bishop Mathew (July 26, 1919) and Miss Margaret Fowler (August 27, 1910) wrote to the *Spectator* describing its nesting at Witham, Essex, and Walmer. Mr. Adamson's theory that a rare bird cannot be identified without killing it is both false and pernicious. To the professional necrologist it is of course mere sentimentalism to speak of abusing the partiality of a rare and beautiful bird for these islands. But it is very certain that to "obtain" a specimen of a rare visitor is to obliterate any pleasure or meaning in its visit. It is a pathological delusion of the collector that a heap of bones and feathers in a glass case is a bird. It would be no less accurate to describe the waxwork figures at Madame Tussaud's as human beings.

VII

BIRDS AND MEN: PARTNERSHIPS AND ASSOCIATIONS

A TAME BARNDOR OWL

AN interesting addition to the growing attractions of Torphichen (a village midway between Aberdeen and Balmoral) is the daily presence of a young barndoor owl which has become an exceedingly tame and apparently interested onlooker at the evening sports. It appears that about four months ago it, along with a companion, had been turned out of its nest by an enemy, which killed one and maimed the other, which has now become a village pet. It was fortunate in being found by humane youths, who took it home, fed and tended it with an affectionate regard, which is being amply reciprocated by the bird. My first introduction to it was when it perched on the lamp-post overlooking the Bowling Green. In response to a whistle and call from one of its friends it came down and perched on his hand, and made no protest at being stroked by me.

The bird enjoys liberty of movement, but returns each morning to the house which it regards as its home (the house of the local bank manager), where it is fed and supplied with water for its bath, etc. Raw flesh, mice, and worms are its dainty dishes, and its appetite is most vigorous. One evening last week it perched on the lawn tennis net while a game was being played, and after watching the flight of the balls for some time it descended on to the court and chased the balls when they rolled slowly near to it. Probably the balls suggested mice to it;

but the appearance was more suggestive of a kitten playing.

The bird is most discriminating, and, while tame to everybody, will only allow himself to be handled by the various members of the family of which he regards himself a member, with privileges to go out and come in as he likes.

WM. WILLIAMSON.

August 26, 1911.

A TAME PARROT

Mr. Williamson will probably find the tame owl will remain at Torphichen till next spring, when it will have other business to attend to. Some years ago a friend of mine in India reared a brood of young parrots. When they had about reached maturity he let them go, when all disappeared except one, which remained faithful. This, whilst enjoying perfect liberty, became very tame. However, when the weather began to warm up—about March—it found other loves more attractive than its master, and was reported absent. My friend, of course, gave up his bird for lost, but one evening, when the monsoon was over, as he walked towards the tennis courts a flock of parrots flew over him, when one bird left its fellows, circled round, and settled on his shoulder. The nesting business was all over, and it returned to its old love, and the bungalow. The following spring the parrot left again and returned in the autumn, when one day, much to its owner's grief, it was crushed by the slamming of a door. He sat up all night nursing it, but it died in his hands.

A. G. CANE.

September 9, 1911.

NOTE.—This story reminds me of one told by Mr. W. H. Hudson of a widgeon (*Mareca sibilatrix*) wounded on the Argentine pampas. The bird was taken home by the gunner, and, recovering, showed him a passionate devo-

tion, squatting down on his foot while he was reading. In the spring the bird flew away to join a flock of its own species, and some time later (I think it was a year, but I am telling this story from memory), the same man was out shooting when a flock of widgeon passed over his head. One of the birds detached itself from the flock and settled on his shoulder, just like the parrot.

Is it not extraordinary that there should exist thinking men, learned in the ways of nature, who read the tenderness and associative memory of actions like these as composites of physico-chemical irritability?

FLORENCE NIGHTINGALE'S OWL

It was an odd coincidence that on the day after the announcement of Florence Nightingale's death I should have read of her the following incident. It is to be found in Vol. I., p. 202, of Sir Mountstuart Grant Duff's "Notes from a Diary," under the date July 20, 1862. As it will appeal to all lovers of animals, I think it worth transcribing for the *Spectator*. Sir Mountstuart Grant Duff had spent the day mentioned at Claydon, Sir Harry Verney's house. He proceeds :

"Lady Verney is Miss Nightingale's sister, and one of the curiosities of the house is a manuscript by Lady Verney describing the life and adventures of her sister's owl Athena, which, bought for 6 lepta from some children into whose hands it had dropped out of its nest in the Parthenon, was brought by Miss Nightingale to Trieste, with a slip of a plane from the Ilissus and a cicala. At Vienna the owl ate the cicala and was mesmerized, much to the improvement of his temper. At Prague a waiter was heard to say that 'this is the bird which all English ladies carry with them, because it tells them when they are to die.' It came to England by Berlin, lived at Embley, Sea Hurst, and in London, travelled in Germany, and stayed at Carlsbad while its mistress was at Kaiser-

werth. It died the very day she was to have started for Scutari (her departure was delayed two days), 'and the only tear that she shed during that tremendous week was when — put the little body into her hand.' 'Poor little beastie,' she said, 'it was odd how much I loved you.' "

C. E. LARTER.

August 20, 1910.

TAME GULLS.

There are thousands of gulls in Wick, all of them more or less tame. I send you a photograph. They perform the same sort of service as the Constantinople dogs, and, like them, they have their beats. Each street, more especially in the east end, has perhaps three flocks, one at the top, one further down, and another at the foot, where, with shrill cries, they strut about disputing over any offal the people may throw out. Each group seems to have a leader, who as soon as he sees any potato-skins or such-like, thrown out by the housewife after dinner, throws back his head and yells at the top of his voice. His company immediately fall on the scraps, and when the mess is nearly cleaned up, he drives them from the field, and proceeds to pick up the fragments with a lordly sort of contempt.

We had one, Jock by name, who had his stance on an outhouse at our back-door, for over twenty years. He would come down and take food from one's hand readily, more especially in winter, but he would never come down if you had a hat on. He had a way of looking sideways through the kitchen window, and it was amusing to see how eagerly he came to anyone who had meat in his hand. He could distinguish at a distance of ten yards the difference between it and bread. His chief delight was game, such as rabbit or hare, and though he ordinarily went home to the rocks about four, if he got the remains of the above, he would stay till dark expecting more. He

rarely allowed other gulls to sit near him, but in the springtime he always had a mate, and at the back end of the year there would be two silly-looking young ones who kept him on the move.

PETER SINCLAIR.

August 23, 1919.

NOTE.—One requires, of course, more evidence, but this story points to the possibility that gulls, or some gulls, have leaders and perhaps sentries, like wild geese, cranes, seals, elephants, antelopes, and other animals. Flocks, at any rate, are not mobs—a mere aggregation of units—since intelligent action on behalf of the society by the individuals composing it is a condition of its survival.

“As the social instincts both of man and of the lower animals have no doubt been developed by nearly the same steps, it would be advisable to take as the standard of morality, the general good and welfare of the community.”

Thus Darwin.

A TAME ROOK

I had a tame rook many years ago. I picked him up under the rookery and brought him up by hand. At first he was housed in a cage, but his wings were never clipped, and as soon as he could fly he took to roosting in a silver birch in the garden. He was called Jack, and would always come or answer when called. There was a rookery near, and the birds would fly round and round over the garden calling to him. He would cock his head aside and look up at them, but never showed any disposition to join them. I was farming at the time, and Jack used to accompany me round. He would follow the hoers and haymakers at their work, watching for what might be under the swathe as it was turned over. He would come to the town—a mile and a half away—with me too, flying home when the outskirts were reached. He was a great tease. Nothing pleased him more than

to stalk one of the dogs when asleep on the lawn. Jack would give him a vicious dig with his beak, but was much too quick to be caught. He then flew to the lawn gate, where he knew he was safe, and from the top of which he would look down upon the dogs with his head aside and a most whimsical expression on his face, chattering all the time. My mother was fond of gardening, and used to plant out most of her seedlings. Jack would perch on her shoulders and watch her; then when the work was done he would pull them all up. The bird was so fascinating that this was tolerated, but he took to going into the house and pulling the paper off the walls, and so—much to my sorrow—it was decided that Jack must go. He was given to a relative a few miles away, who shut him up in a stable for a few days, but after his release he was never seen again. I fancy he joined his fellows, for once or twice I thought I detected his note; but if so, he would never come to me. He was an intelligent, mischievous, amusing pet.

EDWARD COWARD.

TWO MORE TAME ROOKS

In the spring of 1908 I brought up two young rooks who had been blown out of their nests. When they were able to fly they were always free to come and go as they pleased. Both came every day several times to be fed, and expressed their satisfaction with their food very volubly. In July they followed me to church one Sunday, and on being told they could not come in Tweezer was hurt and appeared no more. Wheezer, however, was faithful, and one day in August, when we were playing tennis, a flight of rooks went overhead, and to the astonishment of all he answered my call and settled at my feet. He used to fill his crop as full as possible, and, I presume, carried some food to his friends. He continued

his daily visits till late in September, when after a thunderstorm, which made food easy to get, he too appeared no more.

W. FARRER.

JAMES, THE CROW

I venture to send you the following account of the doings of a quaint member of our family—James, the crow—thinking that it may interest some of your readers.

M. E. CHUBB.

“ He began his career in the Fens, on a tree, overlooking the river Nene. One Bank Holiday in June two boatloads of ‘ bricky lads ’ splashed up; spying the nest, one of the boys swarmed up the slender willow and captured him and his brethren. Finding that they were only crows instead of jackdaws as they had hoped, they thought of killing them, when their teacher stepped in on behalf of James, and he at least was saved. Henceforth his home was to be changed from the broad fens to a little yard in the centre of the town. At this time he could not feed himself, but already his fighting powers were well developed, and he used his tremendously strong beak and claws to good purpose. However, he soon learnt to pick up his food and to make himself more than at home. His first duty was that of a watchbird; as soon as the bell rang, the dog barked, and James crowed, but since the dark weather commenced he has ceased to crow, but shows his feelings by hissing when he is angry, and talking softly in his way when he is pleased. He has become quite the cock of the walk, both the dog, a terrier renowned for fighting, and the huge family cat being in terror of him. Indeed, he chases both of them round the yard, and once pulled the latter by the tail. The servant is fond of having what she calls ‘ a pantomime,’ that is, getting the three animals in a room together and watching the bird give chase to the others. The cat mews, the

dog howls and hides his face in her skirt for protection, but neither of them is ever hurt. In the autumn he took a great fancy to a family of pups who lived next door, and would insist on getting over the wall as often as possible to have a game with them and their mother. She, a collie, and only a pup herself, thought it a great joke, and danced about, shaking her head, and beating him down with her fore-paws. At last the games became so rough that they had to be stopped, for fear of James coming to grief. He is very sociable, and an energetic dancer. His great delight is to come into the house, and he demands admittance by determined knocks with his beak at the back door or scullery window. Fierce as he was when we first knew him, he now enjoys nothing more than being stroked, holding his head down and chattering the while. He is very clean, and even during the winter he taps impatiently at the window in order that he may come in and have his bath. The cold-water tap is turned on for him, and he walks to and fro under it, splashing himself to his heart's content. He is a fine bird, with a strong personality, and insists on having his own way."

April 27, 1901.

NOTE.—This gracious biography of the crow is a revolutionary corrective of our normal view of him. In the country the crow is a solitary bird, though uxorious withal; in London he is as sociable as rooks are. As we should say, he is a reformed character; as he would say, I "the great sub-natural chief of the kingdom of birds," as Macgillivray very justly called me, am appreciated here at my proper valuation, and being no longer treated as a pariah, I scorn to act like one." The crows of my neighbourhood have become civilized, and take life with a serenity, a complacence, a grave amiability interrupted by a "cheerfulness," expressed in a kind of rampagious gusto (like a professor letting himself go at a children's party), "always breaking in." Mr. Coward

says, justly that there is a practical joking element in the crow, and in districts where he is let alone, there is nothing he enjoys so much as buffoonery. And if he remains a bit of a rogue even in security, it is in the Jack Wilton manner. He is in the tradition of witty knavery or Rabelaisian romp.

OUR JACKDAW

I send to you herewith a true account of a jackdaw in case you may think it worth reproducing in your paper.

Poor Jack! He was a good sort. We called him Jack Dutton, after a cottage friend who lived on the borders of a forest and brought him up for us from a baby. Jack made himself quite at home, went in and out of the cottage at his own sweet will, played with the children, and, of course, grew mischievous. At night he took up his quarters in a corner inside. When he came to us he wanted the same privileges; he preferred to come into the house, and when he got inside now and then would pick up unconsidered trifles in the way of teaspoons and such like things. I made him a large aviary in a corner of the garden, with comfortable dark corners as retreats, where he was quite the lord of all he surveyed. In the daytime a little trap door was always open, but he seldom came out uncalled, and when he did he never seemed quite happy until he got back into his own domain. When cats called round he uttered a particularly raucous cry that was seldom heard at other times; but cats did not trouble him much; he had a very fine beak. He would follow my wife across the lawn to the summer-house and mount the back of her chair, where he would amuse himself by pulling out her comb and hairpins, always working on the line of least resistance; he would play with her ear, and tousle her hair,

and do all sorts of funny things. The outer kitchen door opened up a few steps into the garden, and food was often placed in a saucer at the top of the steps. We did not understand why the saucers were so often broken, until one day when in the garden, near by, my wife heard a scraping noise, and looking round saw Master Jack pushing the empty saucer along the top step. When close to the edge the rascal gave one final shove and then popped his head quickly over to see the saucer break three feet below. On another occasion, when gardening, my wife placed her white starched cuffs on a pedestal and forgot them. An hour afterwards they were found on the kitchen floor. Jack had espied them on the pedestal, had carried them to the top of the steps, and dropped them over to see them break! We had a pet dog of whom Jack did not seem to take much notice; but one afternoon in the summer-house, when my wife was having a rough and tumble bit of fun with the dog, Jack uttered his peculiar raucous cry and attacked my wife vigorously for what he thought was her bad treatment of the dog. This was repeated afterwards as an experiment with the same result.

When Jack was about eighteen months old we were surprised to hear him trying to speak English to us. This developed into the words "Come on!" as clearly as we spoke them ourselves. These words had often been used to him and to the little dog in his hearing. Then we tried to teach more, but he never got beyond the exclamation "Hello!" uttered in the softest of tones. It was exceedingly comical sometimes, when pretending to have a pitched battle with him in the garden, to see him dodge behind a stone and out again, saying "Hello!" in the quaintest of voices. By giving a certain whistle I could always elicit from him a vigorous "Come on," and when carrying him on his back in my hand with his feet in the air, he would sometimes challenge me to "Come on!" just as if he were the top dog and I were not. The

rascal knew he was funny and gloried in it. Thinking he might like a mate, I bought another jackdaw, but they never even became friends. Jack Dutton never cared a brass farthing about his mate. He preferred me by a long way ; and if I were working near him would always sidle up to me to see what I was doing, trying to take the small tools from me as if he wanted to give a helping hand. Three months ago he developed asthma, and gradually lost his vigour, but retained his quaintness. A few mornings ago I found him very poorly and weak. We did our best for him, but the next day we mourned the loss of a companion and a friend.

F. MOUNSDON.

April 11, 1908.

NOTE.—See a delightful story told by Mr. Hudson in “Birds in London” (pp. 58-63) of Mr. and Mrs. Mark Melford’s jackdaws which they rescued from dealers, trapshooters, etc. They regarded the daw, he says, “as far more intelligent, interesting and companionable than any other animal.”

THE BIOGRAPHY OF A RUNNER DUCK

In your review of a book on runner ducks you mention that they have been found “as intelligent as a parrot,” and regret that the author has given no illustration of their quality. I can fully endorse his opinion. Humphry, an Indian runner drake, was given to us when six weeks old, and proved through three years as intelligent, affectionate, and companionable a pet as we have ever known. He had no bird-companions and quickly developed a passion for human society. He would escort one round the garden in embarrassingly close attendance, maintaining a low conversational twitter of unutterable content. His mistress alone he distinguished by holding her skirt in his beak as he walked beside her, and on her return from a

holiday he would greet her with extravagant manifestations of delight, jumping around her, rubbing his head against her, and making little snatches at her dress. He had a special salutation for well-known friends, a sudden profound curtsy accompanied by loud quacking and raising of the crest feathers. He and the gardener were devoted comrades, and spent many an hour pacing solemnly side by side behind the roller or mowing machine. But his most constant playmate was the kitten with whom he grew up, and into mature life cat and duck continued their favourite pastime of mock mortal combat, rolling over and over, locked in apparently deadly embrace, a huge delight to both. Humphry's primary mission in life was to clear the garden of snails and slugs, and I have known him eat as many as thirty large snails at a meal, shells and all. The vegetable foods he selected were invariably the treasures of the garden. Much had to be forgiven him, and no form of punishment was ever discovered that made the slightest impression on the culprit; he plainly took a droll delight in doing anything he had once clearly understood he was not desired to do. He loved to investigate the house, and would find his way in at any open door and straight to any room where he heard human voices. Visitors grew accustomed to being welcomed in the drawing-room by a vociferous duck, but neighbours were apt to return him with contumely when he was discovered ascending their front stairs. Alone or accompanied, he was bent on exploring the world; and he habitually walked to bathe in a pool at half a mile's distance, following or preceding his escort along the public road with the greatest composure and enjoyment, the cynosure of every eye. He came to spend great part of his time outside the gate, fearlessly making advances to every passer-by and numbering a wide circle of admiring friends. I fear his roving propensities and a too confiding disposition led to his end, for there came a day when Humphry disappeared and was never heard of more.

Doubtless he became a dinner, and we can only console ourselves with the conviction that he was tough.

MURIEL KENNY.

July 13, 1918.

NOTE.—And with the hope that he gave the diners dyspepsia ever afterwards.

A SUPER-GULL

A few weeks ago a strange thing happened to me on the Oddicombe Beach in this neighbourhood that might perhaps be of some interest to your readers should you think it worthy of a place in the *Spectator*. Being fond of the animal creation, I have always found it easy to make friends with many kinds of wild creatures, birds or beasts, and have often been amazed at the memory and intelligence they show after a few friendly interviews. For some time now two or three of the gulls that frequent the coast here have been very constant in their attentions, and it is of one of them especially that I would now tell. Very often of late this bird (Joey by name) has evidently been on the look-out for me, as one who provides little bits of bun or cake for his delight, and has flown down from the cliffs to greet me, almost brushing my shoulders with his wings, and settling down by my side on the grass or rocks. On Saturday, April 25, I passed over Petitor to the Oddicombe Beach, but saw no sign of my friend until, just as I reached the stones, the gull came with a great rush from half-way up the cliff down to my very feet. I sat down at once on the shingle, with Joey by my side, and gave him a few bits of cake. Presently he began "pottering about" the bank of shingle near, and then, returning to me, began pulling my coat with his beak. "What's the matter, Joey?" said I; "what do you want?" and I offered him another bit of cake, of which he took no notice, but walked a foot

or two away in the direction where he had been before, "pottering about"; then, coming back rather hurriedly, pulled my finger with his beak. He then went over the shingle again for about a yard, and began picking at something partly hidden in the stones. Leaning over to see what the bird was doing, I discovered, to my utter astonishment, that he was pecking at a little ivory box, *which belonged to me*, and that was generally kept in my pocket, holding lozenges, but which I had lost some three or four days before! I had not the least idea where I had lost the box, and had been making inquiries in Torquay respecting it, thinking I must have left it inadvertently in some shop or reading-room. Little did I imagine that my lost *bonbonnière* would be restored to me through the medium of my friend Joey the gull. Now, could this have been merely a curious coincidence, or was it not rather a wonderful instance of memory and intelligence? The only time that I can recall in which Joey must have previously seen my ivory box was about five weeks previously, when one day on the rocks at Oddicombe Joey came and sat down by me, looking as usual for cake. Not having anything of that sort with me, I took out my box and opened it close to Joey and gave him a small piece of chocolate that happened to be in it, which he took in his beak, but refused to eat. That is the only occasion that I can think of in which Joey and my box ever came close together. That gulls have wonderful eyesight is well known, and I understand also that they have great powers of scent; but what the reasoning powers were that led this bird to draw my attention to my lost ivory box is somewhat of a mystery.

V. F. ROWE, Lieut.-Colonel.

June 20, 1914.

NOTE.—It is noteworthy, I think, that these stories of the intelligence of birds do not make their actions caricatures of man's. The minor poet, for instance,

writes of the "mournful thrush," a ridiculous epithet, whether applied to the quality of the song or the temperament of the bird. Many books about animals, again, are stuffed with anthropomorphism. Their authors endow their animals with what they conceive to be emotions and actions of primitive men, forgetting that beasts often behave like human beings, not because they are human, but because the spirit that moves us to behave like men is the identical spirit that moves beasts to behave like beasts. The confusion is between the spirit and its appropriate expressions, and the beast that is like itself justifies its existence as the beast that is made to caricature man can never do. The world is all one creation, but each creature possesses its particular "virtues and operations" as Raleigh says, and Joey's remarkable capacities are super-gullish rather than sub-human.

DOVE RECKONING

I have often thought of recording a curious fact, for which I can vouch from my own knowledge, and the question raised in your paper, as to whether dogs can count, encourages me to do so now. During the summer of 1887 my children were given a pair of doves, whose arrival in a shoe-box, from a kindly farmer's wife, caused great joy. The doves spent their lives in a huge cage (the enforced regular cleaning days gradually took the keenest edge off the joy), in close proximity to an old cuckoo clock. Jubilee, the "father dove" as he was called, developed into a magnificent bird, and his deep-voiced "coo" was music indeed. For ten years he reigned in the great cage, outliving his first wife Victoria and at least one other spouse, and helping to raise many families. Circumstances, alas! ordained at last that his home and that of his owners should be broken up, and he was sent to an aviary in the New Forest for the rest of his happy life. But the gist of the story is this. From

his constant association with the cuckoo he *apparently* learnt to count, and he would often (not by any means *always*) coo the time quite correctly after his wooden tutor. I have heard him at all sorts of hours, day and night, and even at the half-hours, and there was one marked occasion when it was impossible to make any mistake. My children were just out of quarantine from scarlet fever, and for three successive evenings I happened to be sitting with them in their bedroom at nine o'clock. The moment the cuckoo ended, the dove began, and struck nine as neatly as the clock. This occurred on two out of the three evenings. On the third he cooed *eight* times, and then paused, amid the breathless excitement of the listeners. Then a moment after he triumphantly finished the hour with one more decided and glorious "coo"!

H. E.

NOTE.—Some savages can only count up to five, and there has been great difficulty in teaching the more backward children of the East End to reach double figures. Such accuracy of imitation by the member of a by no means gifted family reminds me of Kroll's famous thinking horses. They were adepts at addition, subtraction, multiplication, division, fractions, and square and cube roots, drawing wise men to their stalls as to an eighth wonder of the world. When they were cross or bored or distraught they made mistakes, mistakes of a "curious intelligibility" which they knew how to correct. The genius for figures displayed by these distinguished ambassadors from the Houyhnhnms included the power of precise attention, concentration, memory, and association, and their feats (partially achieved afterwards by an Aire-dale) excited so much professional interest that the honour of opening a "new chapter in the psychology of animals" was granted them.

BIRDS' LIKING FOR MAN

After reading letters in the *Spectator* regarding the intelligence of animals, I thought it might interest your readers to hear of the intelligence of a sea-bird of my acquaintance. When sitting on the beach at Nevin with my wife and children we saw a large flock of sea-gulls resting on the water out in the middle of the bay, perhaps two or three hundred yards away. With them were a few birds of darker colour. One of my boys, why I don't know, whistled to them, and to our great surprise one of the darker birds left the flock and swam to the shore, coming up the beach to our feet. It proved to be a young guillemot. The bird showed no sign of fear, but was quite at ease and stayed with us the whole of the afternoon. At the time, thousands of young sandhoppers were bounding into the air from the wet sand. One of my sons suggested that the guillemot might be offered a few. The suggestion was acted upon and the bird ate them freely with evident enjoyment, and after a time withdrew to rejoin his companions. Having a small tent on the beach we frequently went down on the sands to tea. You may imagine our surprise when on whistling for the bird next day the little guillemot promptly responded to the call, and while we took tea the bird had a full meal of sandhoppers. These visits were often repeated. But on calling at the tent one morning how great were our sorrow and surprise to see the little bird lying on the sand in the middle of the tent floor—dead. The verdict "found" by a small and sorrowing jury was that of "died from a surfeit of sandhoppers." That a sea-bird should leave his companions while at such a distance in answer to the whistle of a stranger seems incredible.

E. LLOYD JONES.

NOTE.—My own view is that many birds have a natural liking for human beings as for other large mammals.

How they love to cluster about solitary farmhouses in the country, girdling them with a fairy ring of music ! But the country round will be often quite empty of them. Perhaps, generation after generation, they are waiting and hoping for a peace of reconciliation between man and beast.

THE PIGEONS AT OUR WINDOW

While we lived in New York we made pets of the grey squirrels in the park. It is impossible to describe how we missed these companions of our idle hours when we came to make our home in London. But we have already some beautiful creatures to succeed to those affections we lavished on the gentle and exquisite squirrels. Besides, we do not have to go abroad to find them. They seek us out in our home, and from earliest morning until, at this season of the year, the lamps are lighted in the street, they remain on our balconies, or, within sight of the windows, on the neighbouring roofs. It may be that you who read this are lovers of animals, and understand well what joy there is in this presence of wild life here in the very heart of the great city. Is it not something to be awakened in the morning by the soft cooing of our pigeons ; and when we go to our window, to hear the air beaten by their hurrying wings, and to see these pretty creatures flying from all directions to greet us ? They were not always so tame. How much mistrust and timidity we have had to overcome ! But the squirrels had long ago taught us patience, and those gentle movements which cause no alarm and awaken no suspicion.

To whom do the pigeons of London belong ? At least we own the allegiance of twenty, and know each by name and by habit, and often they bring with them strangers, so that, alas ! there is no room for them all within the little iron railing which ornaments our window. Now

you must know that our rooms are on the sixth and top floor of a very high building, and so it was that we happened one day last winter to see a forlorn and, as we suspected, a hungry little pigeon, with its small head dropped on its breast, sitting on the roof which runs at right angles to that above our heads. It was an easy matter from the window to throw crumbs on to the leads, but the bird took fright and disappeared. The next day, however, we saw it again, and with it two others; and this time, though they ran off a little distance when the window was opened, they returned to eat. In those cold winter days crumbs were evidently scarce in Westminster, and the news of the manna which thus fell in that wilderness of roofland spread—who knows by what method of communication?—among the birds of the vicinity. In a few weeks they had acquired the courage to descend for their meal to our window balconies, but at that time only when the muslin curtains were drawn, and when we were hidden from view.

Now it happened one day that we saw in a shop a great bin filled with maize and oats, and bearing the alluring sign—"Pigeon Mixture." And from that time to this a sackful of this provender so dear to the birds has been delivered at regular intervals at our flat. Perhaps the hall-porters and the lift-men think that we eat it; they are apparently prepared to believe anything of people who come from the United States, and the more enlightened may suppose that this is the corn of which it is known Americans are fond. In that case the quantity consumed must appear alarmingly great. For now the pigeons have thrown away all pretence at timidity, and, not content with being fed in the early morning, keep within sight all day, and by their patience and their mournful, musical cries persuade us to renew the feast. They no longer require that the curtains should be drawn, or even that the window should be closed, and those who are most devoted follow us from room to room. There is seldom

an hour of the day when one or more of the beautiful birds is not seated on the railing of the balcony, and gazing in upon us. How well they know the sound of a window being raised or lowered, and from what a distance they hear it! In a moment they appear from all directions, hovering in the air, their wings beating and their small pink feet doubled up beneath their breasts. Would it not be heartless to open or close a window without scattering at least a handful of corn upon the sill? During the last few months these pigeons of ours have been very well behaved. They do not quarrel, and when the balcony is full, late arrivals jump down on the backs of those who were before them, or even walk over their massed bodies until they find a corner into which they can squeeze themselves. All this is borne with the utmost good nature. But in the earlier part of the year it was very different.

Certainly our friends the squirrels accustomed us to some display of temper; but in the season when they court and mate our pigeons are sadly quick to anger, and the males, when they are not showing off their charms, are usually engaged in some violent altercation. And just as one squirrel would neglect to take its own nuts while it chattered in fury at the others who approached, or chased them away, so it is with the pigeons. What a fuss they make, how they turn round and round dancing with rage, their bosoms swelling with indignation, their feathers ruffled with the tumult of their anger. And in this way, too, the gay males waltz, when they spread their wings before the females, and puff out their breasts so as to show off to the best advantage the changing hues of their iridescent necks. They will lower their heads to the ground, and raise them and lower them again, so that the sun may glitter on their brilliant feathers. At such times the best fighters would often succeed in keeping away the more timid of the birds, who would afterwards come by themselves to be fed. And among these our friends is

one we have named "Little Mother," who is the most tame and the most devoted, and, often, all day like one brooding, she keeps her place on the railing, and would, we suspect, though we have not ventured to make the experiment, eat out of our hands. Last June we went abroad—not without leaving strict injunctions about the feeding of our pets—and when we returned the young birds, whose first appearance we had awaited with much anxiety and curiosity, were already well grown, and quite accustomed to come to our windows with their elders. They joined readily in the general indignation when, in the summer, several of the balconies were filled with geraniums and other plants, and revenged themselves upon us by devouring as many buds and young leaves as they could reach. But we had not the heart to frighten them away.

With what pleasure would we write of the habits and even the idiosyncrasies, of these our feathered companions, if their kind had not been made the subject of exhaustive studies. One pigeon appeared for several mornings with a piece of thread entangled in its foot, from which hung a long needle. We feared for its safety, and wasted much persuasion on the silly creature, who would not allow us to take it in our hands. But perhaps it was wise. Has not rumour reached us of a housekeeper who, supposing we were fattening these pigeons for some good purpose, took advantage of their tameness to capture more than one to convert them into pigeon pie? If our indignation was disproportionate to the offence, if at the news we brushed a tear away, we are not ashamed. Nor do we share the sentiments of a little American girl who once explained to use that none of the chickens which she reared were ever sold, as she was sure they would prefer to be eaten by those who loved them. While we write half a dozen of our pigeons watch us with curious eyes through the window. They have been there this last half hour, and how strangely their soft cooing sounds

above the roar of the traffic. One taps with its beak against the window pane. We have forgotten it is already time for their evening meal.

W. A. W.

February 9, 1907.

NOTE.—As to the courtship of the pigeons in this letter, it is a very doubtful reading of sexual selection that the females choose the best fighting males. She takes her lover for a kind of compound of qualities—the elegance of his display, the boldness of his carriage, the splendour or harmony of his plumage, his vigour and gallantry and general attractiveness. According to Darwin's theory—"the females have, by a long selection of the more attractive males, added to their beauty and other attractive qualities." Thus variations towards a greater richness and gaiety in the plumage of male birds have been the result of the amatory preferences of the dull-coloured female. Modern science has boggled over the word "choice," being unwilling to grant the hen-bird so delicate a critical taste as to select her man in virtue of a slight superiority in beauty over his rivals. But there is no difficulty if we substitute emotional appeal for critical selection, and a complex of qualities for a single one. The results are the same—the elimination of the unchosen males with less beauty and character (the less fit to the given conditions), and the survival of the males who deserve to survive, and the gradual perfecting of the race. Here is a good example of how elimination often works in brutish, incarnadined nature. The unsuccessful suitors still live and move and have their being; it is the offspring their loins will never create which are the losers in the struggle for existence. Selection, in other words, operates reproductively as well as lethally. However we read sexual selection, it is certainly not the right of physical combat which wins the day. The female not only exercises her choice, but her motives are without any question partly psychological.

PART III
OTHER ANIMALS

I

AN ANTHOLOGY OF ANIMAL NOTABLES : THEIR POLICIES, ENDOWMENTS, PECULIARITIES, CONQUESTS OVER MATTER, ETC.

THE " TRIUMPH OF LIFE."

REFERRING to the interesting article on " Destructive Life " in the *Spectator* of April 22, I beg to mention an illustration which exists in this neighbourhood. The great blocks of limestone on the Plymouth breakwater are often honeycombed and destroyed by what might seem a very feeble agent. A little bivalve makes holes in the stone, it is supposed by secreting a strongly acid fluid. These holes increase in size with the growth of the creature, and so gradually destroy the blocks, which have to be renewed at considerable expense. When the British Association met here in 1877 I was able to submit some living specimens of these mischievous little workers.

BENWELL BIRD.

April 29, 1905.

NOTE.—The animal was the Piddock or Pholas. It is dressed in a pair of white shells, so brittle and delicate that it burrows into the solid rock as a means of self-preservation, an eremite whose only contact with the bustling world are the siphon tubes which it projects beyond the entrance. The accomplishment of this fragile little bivalve in boring into limestone or sandstone is a fine parable of the will to live and conquer. The way it

is done is by its foot-stomach, which is quite soft but furnished with a layer of sharp flint crystals at the base, which are renewed when they are worn down. With this scraper, the indomitable little piddock, chanting the while the "Triumph of Life," files its way into the hard rock.

A FISH OUT OF WATER

A fish of curious habits exists in New Zealand, and as it has apparently hitherto escaped the notice of naturalists, you will, perhaps, admit a brief account of it. The fish is called by the Maories the *kakawai*. Its habitat is very extensive in the North Island, and it may be found on the Wairarapa Plains, the Forty-mile Bush, etc. It is generally discovered when a man is digging out rabbits or making post holes in the summer time, and it lies at a depth of a foot or two feet under the soil. The character of the soil, whether sandy or loamy, does not seem to matter. The fish is from two to three inches long, silvery, shaped like a minnow, but rather more slender and tapering. It appears to be dead when exhumed, and if dug up in the summer and put into water it dies at once. If, however, it is brought to daylight in May or early June (the end of autumn), when the rains are beginning to make the soil thoroughly wet, and put into a tub of water a curious thing happens. After a day or two it casts its skin, which sinks to the bottom, and the fish plays about bright and lively. When dug up in summer there appears to be a growth of skin, or perhaps a dry gummy exudation, which seals up the head and gills. Apparently this enables it to æstivate through the dry weather, and seals the fish as an Indian fakir is sealed up before he goes in for a long fasting burial. Of course, in winter there must be marshy spots or pools in which the fish can swim and propagate, but often all evidence of such nata-tion disappears in summer, and the hot, dry, waterless plain seems the last place on earth in which to find a

fish. When the skin is cast off, vivid little spots of red appear on the body, so that some people have said that the fish is a small trout. This is not the case (although they are now used as bait for trout); the *kakawai* was well known to the natives ages before trout were introduced from England; well known, although the name by some chance has been missed in making the Maori dictionaries, just as naturalists have missed noticing the fish.

EDWARD TREGEAR.

January 12, 1901.

NOTE.—I assume without, I fear, possessing the necessary special knowledge that this fish belonged to the *Dipnoi* or lung-breathing fishes, though not the famous *Periophthalmus*. It is, at any rate, a stout example of the insurgence of life on the one hand, and its plasticity on the other. How indomitable is life, filling nearly every corner of the world, overcoming all difficulties, adapting itself to all conditions, smoothing away the harshest frowns of adverse circumstance, a flaming spirit worthy of our reverence in reflecting upon it and joy in beholding it! It is like faith that removes mountains, and charity that beareth all things, believeth all things, hopeth all things, endureth all things. Fishes have colonized the "abyssal" depths of the sea—a plantless world, where reigns eternal darkness, eternal winter, and eternal silence. A little bivalve bores into rocks; a perch can climb trees; the cactus stores its own water in the arid desert; some dipterous insects can live in hot springs; a spider which drowns in water lives under the Mediterranean, builds a dome-shaped nest, and fills it with air brought from the surface; a fox flies; eels cross meadows. No wonder that the beauty we enjoy in all these things, and indeed in all nature, outside the parasites, has been interpreted as our satisfaction in a vicarious victory of mind over matter.

The naturalist Hickson was, I think, the first to discover the lung-breathing fishes in the Eastern Archipelago. Romance to some naturalists seems to be the imp of vulgarity, and accordingly Hickson made his book so dull and pedantic that he successfully disguised the fact that he was a kind of Columbus of animal life.

The rotifers or wheel-animalcules are another example of the tenacity of life on a lower scale of being. Water-animals, they can not only endure the extremes of drought but of heat. Specimens have been placed in a chamber heated up to 200 deg. F., and revived when the chamber was moistened. The eggs of the brine shrimp (*Artemia salina*) survive for years in salt crystals drained of water; those of the fairy shrimp (*Chirocephalus*) and of the freshwater crustacean *Apus* are able to resist desiccation. Yet *Apus*, once very numerous in the South of England, has, according to Dr. Calman, become utterly extinct there—a strange contradiction. The reason seems to be that it is parthenogenetic, a degenerate condition of reproduction. Its supreme vitality was countered and overborn by a lapse into an unprogressive specialization, contrary to one of vitality's most imperious laws.

INTELLIGENT WASPS

Apropos of the interesting letters concerning wasps in your issue of September 30, I should very much like to know if it is a general thing for wasps to attack and apparently devour cotton material. This summer I was shown two calico curtains pierced with fair-sized holes as if they had been riddled by shot. The owner of the cottage in Bucks where this occurred told me that her attention was first drawn to the curtains by a curious clicking sound made by the wasp as it cut away the stuff; there were sometimes two or three of the insects working together on the curtains. Finally the whole surface of

the material was perforated. The oldest country people in the neighbourhood say they have never seen such a thing before, and they think the wasps cut away the stuff to make nests. Is this possible?

H. MARCUS.

October 7, 1911.

NOTE.—That, surely, was the reason. The story is an interesting example of the co-operation of instinct and intelligence. Bergson's view that instinct and intelligence are "expressions of life on divergent tracks of evolution" is almost certainly the true one. Driesch has called instinct "a complicated reaction that is perfect the first time." It is performance without practice, a germinal variation of the ancestors of the species sifted by natural selection, brightened by practice, and inherited in succeeding generations. It is an hereditary reaction to the necessities of life, and so often can and does play the animal false in novel circumstances. One remembers Faber's experiment with the caterpillar of the Processionary Moth. They go hunting expeditions in a follow-my-leader-fashion, and Fabre, by placing the head of the leader behind the tail of the last of them, saw them go round and round in a circle for eight days. But it is foolish to despise instinct because it is a routine action, and sometimes fails the creature in an emergency. It is necessary for economising functions, for setting the creature free to experiment in directions demanding higher faculties. And its adaptation to needs are as perfect as though they were miracles, which, if the word "inspiration" be substituted for miracles, indeed they are.

The building of the wasps' nest then is pure instinct, but the choice of this particular material was an exercise of intelligence. The example may be paralleled in the nest-building of birds. The building of the nest is an instinctive action, an ancestral inheritance. But the choice of the site is an intelligent action, depending upon

the capacity of the individual. The whole point is that intelligence and instinct mix in the same creature, and that Fabre was wrong in concluding so dogmatically that little-brained insects, in contradistinction to the big-brained birds and mammals, are governed solely by instinct. One other point. Even where an action is exclusively instinctive, it cannot by any manner of means be explained as a physiological mechanism. In the first place, its origin as a variation is derived from the inborn creative power of the organism, which, so to speak, expresses an implicit idea ; it is not fortuitous, but orderly and purposive, in the second, and instinct in full working trim is (to quote Lloyd Morgan) "organic behaviour suffused with awareness," in the third.

ANTS AND LIGHT

On p. 743 of the *Spectator* of May 20, in an article on "Substitute Senses," reference is made to the objection ants have to light, and their efforts to exclude it from their dwellings. That heat also is not desired by them the following circumstances seem to show, and the story may be deemed by you as suitable for your columns. Finding that a small piece of a certain plant (*Physalis*) which I had planted no sooner began to bud near the ground than it was eaten off by slugs, I inverted a stemless wineglass over the same, and as it happened, it had been planted over an ants' colony. In a few days I found the *inside* of the glass lined with moist earth, with some ants also inside the glass, and I concluded that the glass had made the ground too hot over the ants' dominion, as it was in a very sunny part of the garden. Whatever their reasons for doing this, it seems to me one more fragment of evidence of their high-developed mental functions.

They *found* the ground too hot, they *ascertained* the glass was the cause, and they *reasoned* that moist earth was the remedy.

J. LARDER.

May 27, 1905.

NOTE.—It is hardly surprising that an insect whose brain Darwin called the most wonderful speck of matter in the universe, which keeps its own cows, entertains guests, holds gymnastic contests, harvests grain, makes clearings in the forest for agricultural purposes, bakes its bread, constructs bridges (of its own body), stitches with needle and thread, and runs its corporate life on the principles of Mr. Sidney Webb should know how to damp down the fever of the sun. The ant is indeed so highly developed that it has even learned how to be a parasite, not in the natural but the human sense. Two species (*Formica sanguinea* and *Polyergus rufescens*) live like an Oriental potentate on the labour of slaves (*F. fusca*, *F. cunicularia*, and *Lasius flavus*), and in military strategy and co-ordination even civilization has not much to teach some ants. Who knows, too, whether they have not in their midst corrupt statesmen, profiteers, lawyers, place-hunters, tyrants, traitors, hypocrites, pedants, charlatans, Laodicians, and ambitious minor poets? Unfortunately for these promising developments, the militarists and slave-dealers are becoming extinct; our superiority does not seem to be in danger. However that may be, what I should like to ask Mr. Larder would be—was the earth already moist or did the ants themselves moisten it or bring it from beneath the surface? For ants act so reasonably as they do chiefly by instinct.

POETIC JUSTICE?

Your account in the *Spectator* of November 21 of the warfare between the inhabitants of the sea reminds me of a curious scene I witnessed some thirty years ago at the Brighton Aquarium. I was watching some young herrings swimming about close to the bottom of the tank, when the claw of a hermit crab suddenly shot out and caught one, and the owner of the claw proceeded to commence his meal. The capture had, however, been seen by another hermit crab, who at once claimed a share, and a most amusing chase commenced, the two dodging each other round rocks. Unable alone to achieve his object, No. 2 went off, but presently returned with a friend, with whose help he succeeded in effecting a capture. But the chase had aroused the interest of the hermit crab colony, at least from fifteen to twenty of them were engaged in an apparently furious battle for possession of the unfortunate baby herring. Then occurred the most amusing episode of all. Out of the struggling mass there crawled a hermit crab, dragging along with him the body, somewhat dilapidated by now, of the herring, with which he quietly retired behind a rock out of sight of his companions and proceeded to make his meal, while all the others continued to fight, unconscious, apparently, that the object of their desire was gone. I always have had a hope that the final possessor of the herring was also the original captor.

R. ACLAND-TROYTE.

December 12, 1903.

NOTE.—If not, let the sun go round the earth, the roots of trees wave their fibres in the air, the beams of the sun be of ice, the law of gravitation be reversed, and the moon be made of green cheese! All justice is at an end.

THE WOLF'S PRIVY PAW

In the *Spectator* of August 29 the author of "Milton and Brute Creation" remarks: "The hungry sheep of 'Lycidas' are of course not sheep at all, any more than is the 'grim wolf with privy paw' a wolf." I venture to take exception to this remark so far as the wolf is concerned. I met my first wolf while on the march from Mandla through the prairies of Dindori towards the sources of Nerbudda and the shrine of Amarkantah, "the navel of India." He was turning over clods in a field, and looked as big as a calf. At first sight I had no notion what the animal was, but as I rode by within a few yards he swung his heavy head to look at me, and "burningly it came on me all at once" that this was Milton's "grim wolf with privy paw." He used his paw with a leisure, precision, and delicacy that were most striking. Probably, if the truth must be told, he was hunting for field mice. Since then I have kept not a few wolf-cubs. Restless and inquisitive, they seem to regard the world as a mystery to be solved by incessant, tentative scraping with their absurdly large forepaws. I should say that Milton in one line has presented a perfect picture of the wolf with almost photographic accuracy. This may have been a pure accident. I quote from memory, but I think Miss Lawless in her "Lament of the Forest of Ulster," concludes the poem with the lines:

"The grey wolf with scraping claw,
The great grey wolf, with scraping claw, lest he
Lay bare my dead, for gloating foes to see,
Lay bare my dead who died, who died for me."

If I were asked what the most characteristic action of the wolf was, I should certainly say it was the stealthy, prying use of the powerful forepaw. Jackals and hyenas have the same characteristic in less conspicuous degree.

The red hunting-dog has it not at all. His foot is light—the foot of a runner. He is to wolves and jackals as a peregrine to a buzzard.

C. L. CHENEVIK TRENCH.

November 21, 1908.

A METEOROLOGICAL RABBIT

Recently I spent a holiday in Uist, the northmost of the Shetland Islands, and went to see the Muckle Flugga Lighthouse, which stands on a rocky islet, about a mile from the north point of Uist. The lighthouse keepers told me that for nine years they had a tame rabbit living on the rock beside them. It had three holes on different parts of the islet, over which it roamed at pleasure. The keepers said that when they saw the rabbit going to one particular hole they had learned that they might prepare for a south-west gale. Have any of your readers noticed that rabbits are susceptible to coming changes of weather, and in any way prepare for them, as the Muckle Flugga rabbit appears to have done?

T. B.

September 8, 1900.

NOTE. — This is extraordinary but not uncommon. Countrymen “ feel ” a change of weather before it comes ; most of us are aware of a thunderstorm in the air, and many animals with senses far more highly specialized than ours regulate their actions by an *impending* climatic disturbance.

One remembers Cowper’s hare, Tiney :

“ His frisking was at evening hours,
For then he lost his fear;
But most before approaching showers,
Or when a storm drew near.”

Life itself is partly a rhythmical adaptation to the “ external periodicities ” of environment, setting up

subtle chemical changes in the body. Is not the sun the source of energy, and does not a full moon often cause sleeplessness?

“ Four seasons fill the measure of the year,
There are four seasons in the mind of man.”

It is not fatigue alone that makes us sleep by night and wake by day. A wonderful example of the way life is “ punctuated by the seasons and other internal periodic influences ” is the dependence of the mackerel supply upon the amount of sunlight. Rightly do we speak of a universe. But this is a theme worthy of Sir Thomas Browne.

A FEARFUL FAWN

With reference to your article on “ Animals’ Love of the Chase,” in the *Spectator* of July 11, you may be interested to hear of a delight in hunting on the part of that usually hunted animal, the deer. A sambhur fawn I possessed in India, of the age of four to six months, made a practice of chasing all dogs that came into the compound, and did so with every appearance of considering it the greatest possible fun. The dogs, on the other hand, fled with their tails between their legs. The fawn evidently imagined itself to be the guardian and protector of the establishment. I have a vivid picture in my recollection of the gentle little beast transformed into a perfect fury, its coat bristling on end to make it look twice its usual size, head and tail defiantly erect, stamping sharply on the threshold with its dainty forefeet; demonstrations intended to frighten away two pariah dogs who cringed before it on the verandah, yet showed a great desire to intrude into the house. The dogs finally sneaked off, depressed and defeated, and the conquering fawn swaggered back into the room to be praised by me,

either for once disdaining to chase its foes or deterred therefrom by its strong dislike to the noonday sun.

GIACINTA GALLETTI.

August 8, 1903.

NOTE.—Assuming terrifying attitudes is a common self-protective device of animals, and the fact that it is employed by invertebrates (caterpillars for instance) as well as vertebrates is warranty that it is of great life-saving value. For the same reason, it would be (and is) of wide dispersion among the weaker and gentler animals. The stamping of the feet may serve a double function in social animals, daunting the enemy and warning the friend. Rabbits stamp as a signal to seek shelter, and the sentinel termites outside the termitory strike it with their antennæ when trouble is toward. A curious example of nature's economy is the ribbed ruff of the Frilled Lizard (*Chlamydosaurus kingi*). When excited, this harmless lizard opens its mouth, stained with brilliant red, and so erects the elongated tongue bone furnished with a thin membrane. By such means it both daunts its foe and attracts its lady, and love and fear are served by the same weapon.

FEIGNING DEATH

The following anecdote of an animal "passive resister" may possibly interest some of your readers. Nearly thirty years ago I was out with a small shooting party in a district of Northern Oudh. We had a strip of scrub jungle beaten by coolies, but there was very little game in it, and nothing came out my way but a jackal, which, I am ashamed to say, I shot. My only excuse is that I was quite a youngster at the time. The bullet went through its back and out again, and the animal dropped, seemingly stone dead. I told a coolie to carry it to our camp close by, and the man picked it up by the tail and

walked off. He was perhaps thirty yards away when I happened to look after him, and saw the jackal raise its head, which had been trailing on the ground close to it, look round stealthily for two or three seconds, and then bite the coolie in the calf of the leg. The man dropped the jackal with a loud yell, and it made off into the jungle, apparently little the worse for its wound, and was seen no more.

H. C. I.

April 1, 1905.

NOTE.—Extraordinary as it sounds, the jackal died physiologically (a death in life), was told to sham death by instinct, and came to life at the right moment by intelligence. (See p. 94.)

ANIMAL MESMERISM

In your article last week bearing the above title you say: "Both stoats and weasels are *said* to gyrate in order to fascinate small birds." In July, 1885, while walking from Ilkley towards Bolton Abbey, I observed, in a lonely lane, something red whirling round and round, and, looking attentively, saw that it was a stoat going round and round in a circle. Wondering what might be the object of this movement on the part of the little red rascal, I stood still, and presently saw a large blackbird hopping nearer and nearer towards the stoat, not, I would submit, fascinated, but out of pure curiosity to see what was going on. Nearer and nearer came the blackbird, when at last I shouted, and thus saved the poor "ouzel cock" from death.

RICHARD F. JUPP.

May 28, 1904.

NOTE.—Mr. Hudson relates a similar incident in "Hampshire Days," and Mr. Thomson ("British Mammals") how he saw a fox making circles round a pheasant, which stood as if dazed. Is it not possible that the black-

bird was influenced not only by curiosity but by the sensation some of us experience (myself, for instance) of desiring to fling ourselves into space from a height? Or it may be sheer mesmerism. The rabbit running from a stoat or weasel seems to be overtaken rather by coma than by the hunter, and it may be that this semi-paralysis is related to the death-like trance of the "death-feigning" instinct. (See pp. 94 and 183.)

A PIG'S PASSION

The following story of a strange animal friendship may be of interest to you. I am the owner of a pony and a small black pig, which, after the manner of the country, runs loose and finds its own food. The pony is kept stabled at night, but for part of the day is out grazing, and is fed with corn every morning near the dining-room window. The corn is put in a box which rests on the ground. When the pony comes he is always accompanied by the pig, who sits between his forefeet and occasionally takes a little corn himself. If he takes too much, the pony gives him a gentle bite, as a reminder not to be greedy. The pig sleeps against the stable door (it is not allowed to go inside) so as to be near its friend, and when the pony is grazing the pig is always just alongside. When I go out for a drive or a ride, and the pony has to wait, friend pig lies down between his feet until we start. On returning from the drive, the pig jumps about, making the most absurd antics to greet his friend, and grunts a queer sharp grunt, looking for all the world like a fat and clumsy old spaniel greeting his master. He then trots off to the stable with his friend.

F. E. ALLHUSEN.

P.S.—No other pig dare go near the pony, as he has a great dislike for the animals as a whole, and bites them savagely.

March 12, 1904.

ANOTHER

Somewhat akin to the story of the pony and the pig in the *Spectator* of March 12, is the following narrative in the life of Sir Walter Scott, illustrating his fondness for animals and their attachment to him. I find it in a volume entitled "Stories of Remarkable Persons," by the late Dr. William Chambers, who gives Sir Walter's son-in-law, Lockhart, as voucher for the authenticity of the story :

"At Abbotsford, in the autumn of 1820, when a large party, including Sir Humphry Davy, Dr. Wollaston, and Henry Mackenzie were sallying out—Scott on his pony, with Maida gambolling about him—there was some commotion and laughter when it was discovered that a little black pig was frisking about and apparently resolved to be one of the party for the day. Scott tried to look stern, and cracked his whip at the creature, but was in a moment obliged to join in the general cheers. Poor piggy was sent home. "This pig," says Lockhart, "had taken, nobody could tell how, a most sentimental attachment to Scott, and was constantly urging his pretensions to be admitted a regular member of his *tail* along with the greyhounds and terriers; but indeed I remember him suffering another summer under the same sort of pertinacity on the part of an affectionate hen. I leave the explanation for philosophers—but such were the facts."

D. BROWN ANDERSON.

March 26, 1904.

NOTE.—The pig has the reputation of being a perfect *gourmet* for sentiment.

RACIAL MEMORY IN CATTLE

In an article under the above heading in your issue of December 3, 1904, the following sentence occurs: "In the forests they were exposed to the attacks of wolves which killed off their calves, and left that ineradicable habit of concealing the young noted in the cows at Chillingham." Was not this habit originally common to all cattle? Here, in the South African Karoo, where the cows generally calve in the veldt, they invariably hide their calves so that the herds have to watch them sometimes for days, and follow them surreptitiously, to find out where the calves are hidden. The cause of this is, no doubt, the same—it is a measure of precaution against beasts of prey. It is, I suppose, not more than forty or fifty years since wolves were exterminated in this part of the country.

ANNA HOWARTH.

January 28, 1905.

NOTE.—Man himself is a kind of museum of vestigial remains; he emerges, in Whitman's queer phrase, "stuccoed all over with quadrupeds." He is, in fact, more primitive in structure than the over-specialized gorilla and the other anthropoids, and the appendix is to archaic structure what the cattle hiding their calves, the horse shying, the dog turning round on the hearth, etc., etc., are to archaic instinct. Very strange and interesting are these useless persistencies of the past into the present, these faded manuscripts of an original creative idea, but to interpret them despairingly is a folly. These relics, both of function and of structure, are surely a living witness to the dynamic power and changefulness of the evolutionary process. We may have an abbreviated tail-stump hidden away in us, but it serves to remind us how far we have travelled from the time of tails. A bird's

feather is but a transfigured reptilian scale, a flower a sublimated leaf, but a bird is a very different thing from a reptile. Reflecting from these living fossil habits and structures to the astounding *δυναμὶς* of living creatures to change into something new, something nobler, more complex, more beautiful, more individual, one feels inclined to strike out the Darwinian word "variation" and substitute for it reincarnation. If the change sometimes be to a worse rather than a better state, it is still reincarnation. How different are the sedentary from the free-winged forms of some parasites.

THE PSYCHOLOGY OF CATTLE

Colonel Cadell's letter (*Spectator*, September 21) is very interesting, and recalls a similar incident related by Colonel Pollock, though, in the latter case, the Colonel, tripping over a wild vine, lost his shot, and the buffaloes, hunting like so many hounds, finished the job "on their own." Mowgli knew his business when he sent the cows and calves round to one end of the wall-sided pass where Shere Khan was lying, and, himself riding the big bull Rama, brought the bulls in at the other end. "Before they were fairly in the bed of the ravine Rama winded Shere Khan and bellowed. "Ha! ha!" said Mowgli, on his back, 'how thou knowest!'" Ordinary domestic cattle would be useless in a strait unless under the influence of the *Storgé*, but then all initiative has been carefully bred out of them. A cow with an originality would not suit the farmer. "A vicious cow won't fat," as we say in Dorset. And the little Forest cattle, who can fend for themselves, are not favourites in the enclosed country. "They jumpin' heifers," as a friend of mine phrased it, are apt to lead the solid herd astray. But the half-wild West Highlanders form line of battle in the orthodox fashion, bulls in front, on the approach of strangers, and so do the wild white cattle at Chillingham.

So we must not blame the heavy-footed cattle that are so stupid and tiresome when you try to ride among them on the road, remembering that they are only animated milk and flesh making machines of our own producing.

W. K. GILL.

September 28, 1912.

NOTE.—It is said that horse-breeders artificially select the most docile, the least spirited, enterprising, and sensitive horses, and that by this means the intelligence and individuality of the horse have been lowered. They are descending, in fact, into animated motor-cars. Without going into the utilitarian pros and cons of the matter, this degradation must bring some sadness to the naturalist. For the evolution of the horse is a great story. The very early *Eohippus* had four toes in front and three behind; the side toes of *Protorohippus* (Eocene and 14 ins. high) touched the ground and gave it more speed; the little toe of *Mesohippus* (Oligocene) was reduced to a splint and the animal was the size of a sheep; of the three toes of *Protohippus* (Miocene) only one touched the ground, and this animal was 36 ins. high; while *Hipparion* (Pliocene) was 40 ins. high, and the ancestor of the modern horse. The horse, that is to say, progressed from splay-foot to tiptoe, and it progressed thus symbolically as well as physically. The earlier hippoids lived in the swampy forests, and as plains and grass lands were evolved took more and more to the open. The horses which chose the hardier, more adventurous, and freer life, that shook off the security and sluggishness of their ancient haunts, and “faced the bright eyes of danger,” were the horses that survived. The story of the horse is the story of nature’s dislike of the ungirt loin and the unlit lamp. When we reflect, then, that this noble beast has written its own epic, its descent to the prosiness of the “willing slave” is a melancholy anti-climax.

LION-GRATITUDE

In your article "Androcles and the Lion" (*Spectator*, June 29) great doubt is thrown on the truth of the classic tale, but I venture to think that the following facts tend to show that there may have been a very solid foundation of truth in the story of the lion's devotion. Early in the "forties" of the nineteenth century a lion or lioness in the Dublin Zoological Gardens was discovered to be suffering from the effects of an ingrowing claw nail. Matters had reached a serious pitch when, I think, the late Professor Haughton, Head of Trinity College, became interested in the case, and, in conjunction with the keeper, arranged to attempt an operation, the step having the full sanction of the authorities, who knew that, unless professional skill could effect a cure, the life of a valuable specimen would be sacrificed. A second iron barred screen was arranged in front of a portion of the solid iron gratings of the invalid's cage, and, after many efforts, on the appointed morning the animal was roused and the damaged paw drawn through the bars. As if aware that steps to alleviate its sufferings were in progress, the great creature was wonderfully tranquil, and allowed the surgeon to cut out the offending nail and remove the diseased flesh in the immediate vicinity without the awful struggles which had been anticipated and prepared for. The operation concluded, the restraining ropes were removed and the great creature retired to lick its wounds, in no very placid mood. Two days after the surgeon returned to see how matters stood, and to his intense surprise was recognized by the patient, not as an enemy, but as a friend! Stalking up to the side of the cage, the lion purred loudly, rubbing its sides against the bars, waving and arching its tail after the manner of the domestic cat as it passed and repassed in front of its benefactor. Nor was its gratitude of a transitory nature.

As long as it survived the greeting was the same every time its friend presented himself, till one day, months after, on reaching the lion house, he learnt that the faithful creature had died—not from any result of the operation which had been absolutely successful, the wound healing completely. Though uncertain of the operator's name, I am clear as to the main facts, having often heard the tale from my father, a medical student of Trinity College, Dublin, at the time.

A FRIEND OF ANIMALS.

July 20, 1907.

NOTE.—If a one-celled protozoon, invisible except under the microscope, is aware of and capable of differentiating between what is physically good and what is physically bad for it, there is certainly no improbability in so highly developed an animal as a lion feeling a permanently emotional response to an action which has done it physical good.

A DOMESTIC OTTER

You may be interested to hear that some years ago a young otter was adopted in a country house in Ireland. A feeding bottle carried it over its first youth, and it became an engaging pet. One day it was missed, and after a prolonged search was found lying in the cradle beside the baby, whose bottle it had abstracted and was sucking dry. Nurse had gone for a walk, and left the bottle to keep baby quiet.

A. DE B.

July 6, 1900.

NOTE.—Mr. Strachey's volume "Dog Stories from the *Spectator*" is headed by the following quotation from Dr. Johnson: "Sir, to leave things out of a book, merely because people tell you they will not be believed, is meanness."

II

SQUIRREL MEMOIRS

A SQUIRREL'S COLLECTANEA

In your issue of March 7 you insert a letter from a correspondent on " Squirrels and Coconuts " which recalls to me an experience of my own. I gave my gamekeeper strict injunctions never on any occasion to shoot a squirrel. I look upon squirrels as a species of handmaiden, and in any case he is a happy-go-lucky creature, intending little ill, and if he does offend at times, his company and capers on the lawn or on the trees make up for his mischiefs. I was once compelled, with some misgiving, to take down a squirrel's abode, as a tree was to be removed to preserve the light of a parlour situated in the Forfarshire Highlands, the roof of the room being low, and the tree being the pious abode of the squirrel and his mate. The gross weight of the nest was six pounds, made up of the nest itself proper, an old stocking, an old glove, a bit of the *Spectator*, a reduced copy of the Church of Scotland hymnal, a leather watch-guard, a large bunch of black face wool, the remains of a heavy dish clout, an apron string, the handle of a whip, a girl's glove, one pound of mortar from an old quarry, one leaf of an old sermon which had been delivered at a Sunday conventicle in Glenisla, and other odds and ends difficult to assort and easy to escape the memory. I could not restore the nest, because my object was to make a digest of it for the *Spectator* if you shall be pleased courteously to insert this letter.

WILLIAM YAPP.

March 21, 1908.

NOTE.—The nest was in fact a microcosm, or the drey, shall we say, was a pantehnicon, and this encyclopædic squirrel may be said to have laid fragments of the entire human world (not to mention the spiritual world) under contribution. Not much instinct in this selection of materials!

AND ONCE MORE SQUIRRELS

Can you find room for one more squirrel-cat story, an old story as to date, but at the same time new (in print), and quite true? Twenty years ago last May, I and my three schoolboys were picnicking in a glade of a fir-forest above the Lac Lemman. The short turf was covered with a carpet of cowslips and spring gentians. The scene was a paradise. "Hi! there's a magpie's nest. I'll have one of the young ones." And with that my son swarmed up the tall straight trunk of one of the fir trees to where on the first fork rested a loose jumble of crossed sticks. "It's not a magpie," he called, and we saw him carefully wrapping something out of the nest in his pocket handkerchief; and tying it into a little bundle he swarmed down again. The handkerchief contained a tiny grey squirrel of the sort which one sees, mixed with the English sort, hanging in Swiss markets in pitiful bunches, and destined to fill pies. This one was the size of a large mouse, blind, its tail bare of hair, not pretty in any wise. "Oh, what a pity. We can never feed it," said I. "Oh, let's try," said the boys. So we adjourned to a wayside cabaret and ordered *café au lait* entirely for the squirrel's sake, and delightedly saw it eagerly suck down drops of warm milk. But what to do with it finally? I had a happy thought. We carried it up to the mansarde in the high roof of our ancient pension, and laid it before the cat (a very common tortoiseshell), who was then nursing a kitten of the squirrel's age. "She will kill it!" cried the boys. But no; pussy gave it one eager glance,

and then at once proceeded to lick it carefully all over, after which she placed it beside her other nursling and purred placidly while she fed the two. Many a visit was paid to that mansarde by schoolboys and their friends, old and young, while we watched our squirrel grow and develop, his black eyes open, his rat's tail become a beautiful brush, his movements grow rapid and bird-like, and evidently an enigma and a trial to his foster-mother. One day we found her alone and waiting at the open window. He was her favourite child, and she had neglected the kitten for him. He was soon discovered skipping nimbly about the steep roof, whence pussy succeeded in tempting him back to his bed. Two or three weeks later we saw a weird sight, the uncanny pair, mother and son, slowly descending the broad stairway of the old campagne side by side, she with the proud air of a chaperon introducing a distinguished *débutante*. She led him to the garden and then left him. We never caged him. He lived a merry life, chiefly in a tall tulip tree close to the house, but he roamed freely, even down to the lakeside. He knew our hours, and never failed to drop down among us at our alfresco tea, when he would rush impatiently at the ladies' pockets, where we hid things to tease him, and barked at us like a small terrier if we hindered him. But he was at his sweetest when he visited me and mine severally very early in the morning before we were up. Coming in through open windows, we always had dainties for him hidden under the pillow, and he would sit up on the bed in front of us and eat them, nuts or little fancy biscuits, slaking his thirst from a tumbler of water. He always came leaping to me, even from the ends of the plantation, if I called "Rom, Rom." We named him Romulus, as nursed by a wild beast. He did not like to be caught and held, though he loved to be stroked and played with. He never bit. He would bounce on to my shoulder off a high tree and nibble my hair. We had suspected him of secreting

more than he could possibly eat, biscuits and nuts, when we at last discovered his secret larder in a hollow tree in the plantation, his biscuits all wretchedly soft and soppy; and we also found him holding in his tiny hands and biting an immense tree-fungus, like a great sea-biscuit, which almost overbalanced him. To end my too long story, in November, of the same year, alas! our pet disappeared and came no longer at my call, leaping through the trees.

ANNE MARY WOOD.

July 18, 1908.

NOTE.—The phrase “the struggle for existence” has perhaps done more mischief in the world than any other in the history of civilization. How tragi-comic is the wizard spell of words! For the phrase is but a phrase, a metaphor and expressly so used by Darwin. “Words,” as Hobbes said, “are wise men’s counters; they are the money of fools.” The “struggle for existence” includes the total reactions of living creatures to their environment, social reactions no less than individual, tender no less than fierce, other-regarding no less than self-regarding. It is the summons upon life to respond, as the conductor taps with his baton for the music to begin. The maternal hunger of the cat, cherishing what was not its own, but warm, helpless, and living, was as integral a part of the struggle for existence as the same cat’s action in killing a mouse.

III

CAPTIVE ANIMALS

THE IMPROVEMENT OF THE ZOO.

Your article headed "The Improvement of the Zoo," in the *Spectator* of November 23 is a piece of valuable criticism on the points I have raised. It will be read with sympathy by all who care to bring unbiassed judgment to bear on the question. Without wishing to discuss that part of the article with which I have less agreement, the latter, will you allow me to emphasize two points that may have received inadequate expression in my circular? First I am aware that the funds of the Society admit of only gradual improvements in its premises in Regent's Park. But I hold very strongly that sooner than there should be any part of the Gardens that may rightly be called "slums," it were better that many genera and species should be *entirely unrepresented* in the menagerie. Secondly, I wish it to be clearly understood that I bring no charge of incompetence against the Council. All I wish to do is to point out that the present condition of the Gardens is not in accord with modern ideas. May it not be that in the Zoological Society, as in more important institutions, the machinery of government is to blame?

M. DAVENPORT HILL.

November 30, 1901.

NOTE.—Purely as a matter of abstract ethics, abolition, I think, is the ultimate logic of the Zoo. Animals have committed no crime against the community, and therefore the community has no right whatever to give them life-

sentences of imprisonment. A few of the larger animals, of course, may affect human life injuriously, but as they form an infinitesimal portion of a zoo's inhabitants, and as we never dream of confining the most injurious part—insects—it is plain that the punishment does not fit the crime. But in their present stage men are not governed either by logic or abstract ethics. The most rational way of treating wild animal life is to leave it alone, thinking out the most merciful and effective plans of dealing with it when it can be proved beyond dispute either to be indispensable for food or to conflict with human necessities. I think that Mr. Davenport Hill is right, and that for people with a just view and an imaginative knowledge of animal life, the great majority of existing zoos must be objects of dislike and shame rather than of enjoyment, but at the same time that the principle of a zoo, of a preserving institution, to counteract in some degree the insane rage of destruction which is emptying the world, must be admitted to be beneficent.

The practical policy and ethics, then, are not to abolish zoos but to reform them. It has been recently argued that even minor improvements in our zoo are needless, because the animals are happier in captivity than in their native wilds. That zoologists should lend themselves to such an argument shakes one's faith in experts. It is the plea of the sentimentalist. For happiness in this connection can only mean security, an immunity from the risks and adventures of the "struggle for existence," the same kind of security that the animal parasite seeks and obtains from those healthy and arduous responses which have been the first condition of all evolutionary progress. The forfeit the parasite has to pay is degeneration; its permanent bed of roses is bought at the price of that choice, initiative, vigour, experience, conflict with circumstance, endeavour, and intensity of living which operate in an animal's normal reaction to its environment, and are the psychological cause of the formation of new species, of

that being from becoming, and becoming from being called evolution.

The physical condition of animals in the zoo is evidence enough of the truth of this. In spite of all the care lavishly spent upon them, the zoo animals are sick, sick in spirit and bored with an inexpressible tedium, stupefied and stultified from inaction. The differences between the wild and the caged animal are so many and striking that it is not extravagant to compare them with the differences between the people in the streets and prisoners in their cells, or, better, consumptives in a sanatorium. How should the animals not be such, when they are largely deprived of the six primary joys of liberty, and qualification of fitness to environment—the power of mating and rearing and educating their young, the power of enjoying the companionship of social life (the vast majority of mammals and birds are social), the power of exercising their suppleness of body or strength of wing in graceful movement, the power of meeting in the most efficient way the variety of circumstances attending daily life, the excitements and realities of the hunt for food, and last, but not least, the power of satisfying their everlasting curiosity? The case for reforming the zoo is unanswerable on *scientific grounds alone*, since, in its present condition, it forcibly sunders the biological trinity (verily three in one and one in three) of Organism, Function, and Environment.

Now, granted that there are not sufficient funds to make a miniature Yellowstone Park of the zoo, there is no question but that the most urgent reforms call for but a small outlay—viz., the abolition of solitary confinement, and the need for space, more space for our charges, and indeed light, more light for us. There is no room? But there is actually more room in the gardens than is occupied by the animals. The zoo is not a flower garden or a country gentleman's lawn, or a Kensington Gardens where the carpet bedder can pursue his grotesque experi-

ments, or a canteen or a bandstand. The zoo is for the use of the birds and beasts and the people who come to see them, not for all these genteel irrelevancies, and a parade of polite ornamentals. For birds which require artificial heat, for instance, there is the example of the tropical glass-house at Kew, which, intelligently adapted, might very well do away with the barbarous conditions of the Small Birds' Aviary. An antelope galloping over the grass is worth ten in a barren pen. Fewer animals, more space, more social and nuptial life, and as near an approximation as possible to the natural environment of the animal are the indispensable beginnings of reforming the zoo.

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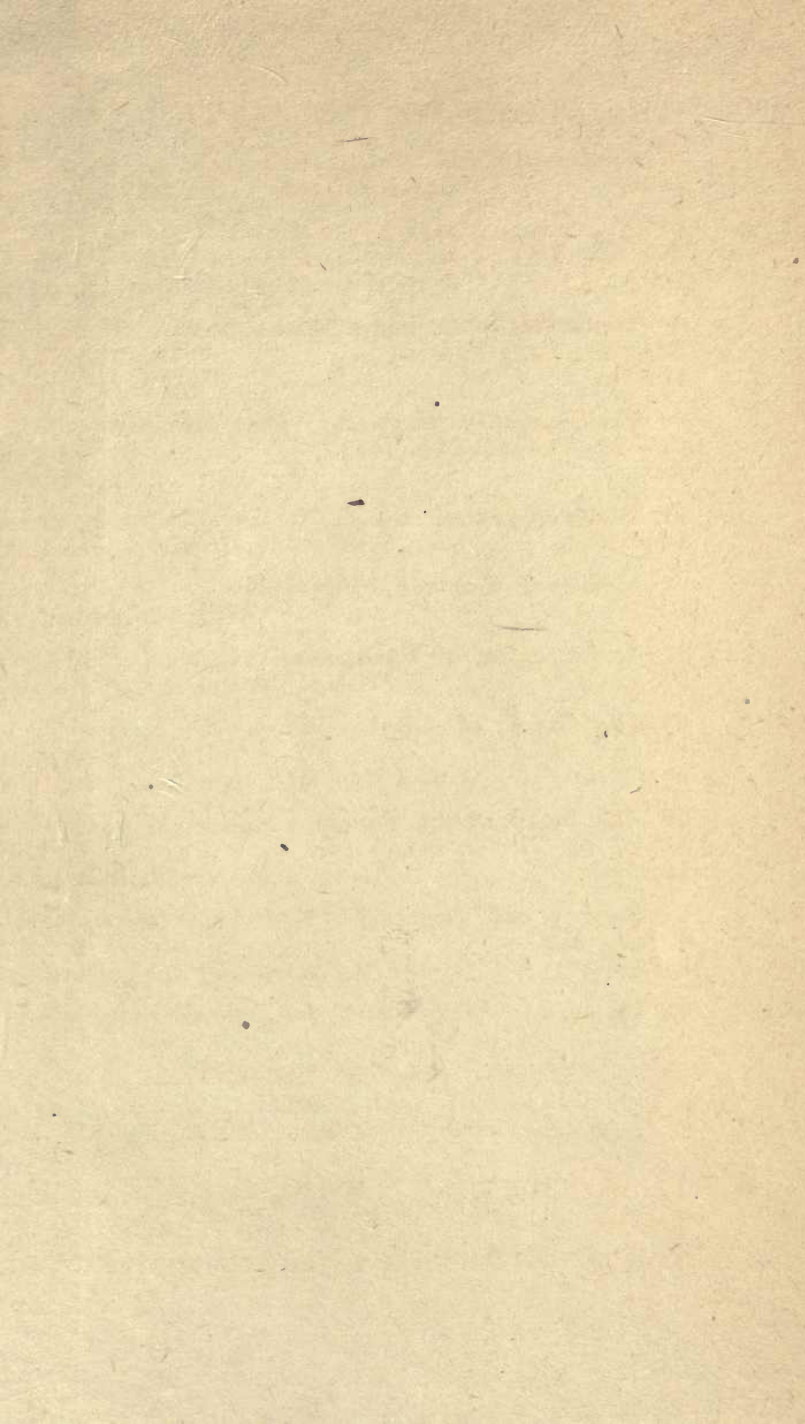
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